MACOS TAHOE: WHAT YOU NEED TO KNOW

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AUGUST 2025

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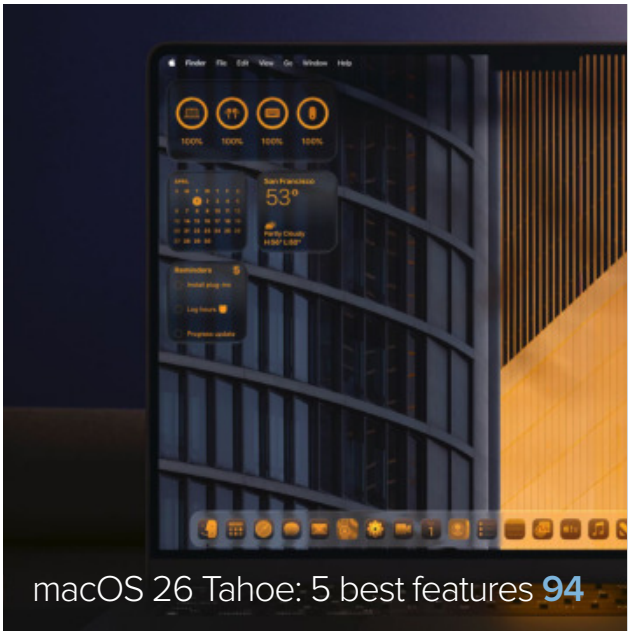

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I really want to switch to a MacBook Pro. Here's why I'm waiting till next year

The M6 MacBook Pro is looking like the biggest MacBook Pro upgrade in years.

BY MAHMOUD ITANI

As a die-hard Apple fan and a technology journalist, I try to refresh my gear every year or so to keep up with the latest features. However, while my three-year-old M2 MacBook Air (fave.co/3zbn71l) could certainly use an upgrade—and I've got my eye on a new MacBook Pro (fave.co/3Rt3mMe)—it's going to have to last for another year. Not only are the M5 MacBooks (fave.co/46gdnVu) not expected to bring much in the way of new features, but Apple is reportedly set to kick-start a new era with the M6

IMAGE: APPLE

MacBook Pro (fave.co/44Zli99) as soon as next year. Here's why I'm waiting to upgrade—and so should you.

A NEW DESIGN THAT'S EVEN THINNER

With the introduction of the first Apple Silicon MacBook Pro, Apple adopted a boxier design with flat edges, thin bezels, and a notch. It has since become the default design for all of its laptops, with the main differences between the MacBook Air and Pro designated by features rather than form factor.

The forthcoming Apple design chapter appears to be all about slimness. We've already got the ultra-thin iPad Pro models, and the iPhone 17 Air is expected to adopt a similar formula later this year. Similarly, the MacBook Pro M6 could follow suit in late 2026 and boast a sleeker body that makes it lighter and more mobile. Consequently, opting for a comparably chunky MacBook now doesn't feel like a very wise decision.

The M6 MacBook Pro is expected to have an even thinner design like the Air.

A FIRST-OF-ITS-KIND DISPLAY

Another expected upgrade for the M6 MacBook Pro is its enhanced display. For the first time on a MacBook, Apple is expected to debut an OLED panel (fave.co/4njipa1), contributing to true black levels and more vibrant colors.

We've already seen the benefits of OLED on the iPhone and iPad Pro, but they'll be even more noticeable on the MacBook's larger screen. Compared to the MacBook Pro, the iPad Pro's tandem OLED screen has greater sustained HDR brightness with all of the same pro-level features we already love: 120Hz refresh rates (ProMotion technology), TrueTone, and the nano-texture option. Compared to my MacBook Air screen, it's a whole new world—and one worth waiting for.

FASTER PERFORMANCE (WITH 5G?)

It goes without saying that replacing a MacBook Air M2 with an M4 MacBook Pro will remarkably boost the performance, with at least doubling my 8GB of RAM and far faster speeds. However, the M6 chip coming next year looks to be a huge upgrade to my M2 chip that brings substantial improvements to the CPU, GPU, and Neural Engine that powers

on-device Apple Intelligence features.

Apple silicon Macs seem to follow a four-generation performance cycle. Benchmark results indicate that transitioning from an M1 to an M4 chip can enhance CPU capabilities by around 60 percent in both single-core and multi-core tasks. The M4's GPU performance is approximately 60 percent better than that of the M1, and its Neural Engine is about three times faster.

The M6 MacBook Pro may make it through several days of work without a charge, making it perfect for use on the road.

As such, by the time the M5 processor debuts, the incremental developments over the years will have stacked up, warranting an upgrade for M1 Mac users. Likewise, it makes sense for M2 Mac users like me to wait for an M6 to get the most bang for their upgrade bucks.

And just maybe, Apple will give us a long-requested feature in the M6 MacBook Pro: cellular connectivity. With its new C1 modem (fave.co/42te63A) in the iPhone 16e, Apple has control over the cost, performance, and efficiency of the wireless chip, so it can hopefully bring it to the MacBook Pro to unlock 5G connectivity and make working on the go more feasible.

EVEN BETTER BATTERY LIFE

M-powered MacBooks are renowned for their energy efficiency and long battery lives. My M2 MacBook Air's battery, despite now having a maximum capacity of 82 percent, still manages to get me through several hours of continuous browsing at full display brightness. However, its shortcomings surface whenever I do heavy work, forcing me to charge it at least once a day.

According to Apple, the MacBook Air M2 can last up to 18 hours on a single charge, while the M4 MacBook Pro stretches that to 24 hours. When the M6

MacBook Pro debuts, it's safe to assume that the 24-hour limit will have been maintained or improved thanks to improvements in efficiency, the OLED display, and cooling. Even if it's just an hour or two, it could mean the M6 MacBook Pro will comfortably make it through several days of work without requiring a charge.

THE END OF THE NOTCH

One of Apple's most unsung features is Center Stage. When FaceTiming my friends, the camera frame adapts to my movements and ensures that I stay centered at all times. Current MacBook models have already ported this feature, along with the 12MP front camera from the iPhone and iPad. However, they also still have an unsightly notch.

There was a time when the MacBook's notch mirrored the iPhone's design, but with just one iPhone left with a notch (the 16e), it's time to move on. Along with the OLED display, next year's MacBook Pro models could also be retiring the controversial notch in favor of a hole-punch camera design. This would free up space in the menubar and look much better with macOS Tahoe's new invisible menu bar design.

The MacBook's notch has to go.

THE BEST THINGS COME TO THOSE WHO WAIT

Now that mainstream consumer devices have generally matured, there are two main ways to go about fresh releases. We either upgrade annually and complain about how insignificant the differences are, or we ignore them for a few years and enjoy the bigger, cumulative impact when a replacement is due.

A jump from my M2 MacBook Air M2 to an M3 or M4 MacBook Pro would be a nice upgrade. However, waiting for the M6 MacBook Pro won't just be a huge upgrade for me, but a full refresh of Apple's high-end laptop with a new design, a faster processor, longer battery life, and the most advanced MacBook screen yet. Waiting isn't going to be easy—but it'll be worth it. ■

How 30 years of chip transitions paved the way for the spectacular Apple Silicon era

Apple's preparing to close the books on the third chip transition in Mac history.

BY JASON SNELL

With the announcement that macOS Tahoe will be the last Mac OS version to support Intel Macs (fave.co/3l0LRkW), Apple's preparing to close the books on the third chip transition in Mac history.

It doesn't get a lot of attention, but Apple is absolutely the best company in the world at picking up stakes and moving its platforms somewhere else. Over its 41 years of existence, the Mac has run on four entirely different processor architectures (not to mention two different

IMAGE: APPLE

operating system foundations), all the while remaining more or less the same familiar Mac we know and love.

This is not an easy feat to accomplish once, let alone three times. Apple's gotten very good at this. Twenty years ago, it was the switch to Intel (fave.co/4kb3E6k). Five years ago, the switch to Apple silicon (fave.co/3Kcdhm9) started. And of course, way back in the mists of time when I was a brand-new hire at one of Macworld's predecessor publications, Apple made the leap for the very first time.

HARD-EARNED LESSONS

When I wrote about the Mac's history of chip transitions (fave.co/3J59mEm) as rumors of the Apple silicon transition swirled, I made great pains to point out that Apple had been there, done that, and learned many lessons. My only concern was if there was anyone left at Apple who had lived through the old transitions, or if the company was going to have to figure it out from scratch all over again.

After that story was published, I heard from someone inside Apple who assured me that, yes, there were still some people kicking around who had been there when that very first chip transition happened back in the 1990s. That kind of institutional memory was vitally important to Apple's transitions in 2005 and 2020, as it turned out.

The original Mac came with a Motorola 68000 processor. The 68K was used on all sorts of video games and some Atari computers, as well as the Mac. But in the early 1990s, Apple was frustrated by the slow pace of improvements of its chipmaker and realized that the fate of its platform was dependent on the success or failure of someone else. This story kept repeating.

The original Mac came with a Motorola 68000 processor.

Apple was doing its own chip research in those days when, in a most unlikely event, its archrival, IBM, approached the company about collaborating on a next-generation chip design. With almost-jilted Motorola added as a partner, the AIM Alliance set about building a new set of

chips that would become the PowerPC.

The PowerPC was a next-generation chip with features that differentiated it from the dominant Intel processors of the day. The first Macs with PowerPC chips inside, dubbed Power Macs (of course!), arrived in March 1994. To get to that point, Apple didn't just have to bring its software to a new chip design; it had to enable compatibility with old Mac software.

The January/February 1994 issue of *Macworld* detailed Apple's first chip transition from the Motorola 68000 to the PowerPC.

Power Macs ran a (nameless) 68000-series emulator that enabled them to run nonnative software at a slight speed penalty. My memory is that the sainted Microsoft Word version 5.1, which was not PowerPC native but was awesome, was still quite usable (though noticeably slower at some tasks) on the new chips.

As a first-time transition with a base of users who had committed to the Mac during its first decade, it was a scary time. For a year, we ran a column called "Ask Dr. Power Mac," where users wrote in to understand the technical challenges they might face as they upgraded.

Apple's biggest mistake in this era was that it didn't control its developer tools. Metrowerks, a software company ultimately bought by Motorola, built the definitive PowerPC development environment, CodeWarrior. (Apple would learn a key lesson from this; today, pretty much all development happens in Apple's own Xcode.)

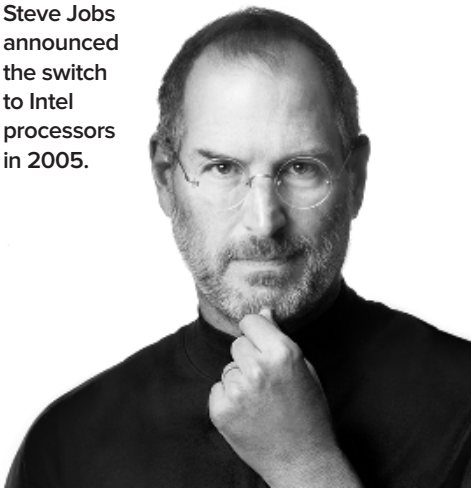
Within a year, the transition picked up speed, new PowerPC native software shipped, and Apple had a template for any future processor transitions that the Mac might require. (But hopefully not, right?)

EVERYTHING FALLS APART

It's the summer of 2003, and so far as anyone knows, the PowerPC era is proceeding apace. The new G5 (fifth-

generation) processor has been announced, and Steve Jobs has promised that it'll eventually reach an all-time record 3GHz speed. The community is excited about the promise of that power coming to Mac laptops as well. During the East Coast Macworld Expo that year, Apple PR proudly takes me on a tour of IBM's chip plant in Fishkill, New York, where the cutting-edge G5 will be produced.

That was a major turning point, but not in the way Apple intended. IBM was never able to produce that 3GHz chip for Apple. The G5 wasn't suitable for laptops. And deep inside Apple, a skunkworks project was making sure the brand-new Mac OS X could run on Intel processors. Twenty years ago, Jobs announced the switch on stage at the Worldwide Developers Conference: The AIM fellowship was severed, and Apple would move from PowerPC to Intel.



Steve Jobs announced the switch to Intel processors in 2005.

This time, Apple gave the technology that translated PowerPC code and ran it on Intel processors a name: Rosetta. The PowerPC software it emulated ran slower, to be sure (fave.co/4nv46PN), but Intel-native "universal" apps appeared quickly, and faster Intel processors kept appearing at a rapid pace. The Mac had never been faster, and perhaps more importantly, it could no longer be negatively compared in terms of speed to Windows PCs.

This period was in many ways the most important decade in the Mac's history. The growing success of the iPod (and later the iPhone) put the Mac in front of people who might never before have considered buying one. A new generation of Windows emulators, capable of running at full speed on Intel hardware, provided a fallback for PC users who might need to run a handful of Windows programs. The Mac began to grow rapidly.

DOING IT FOR THEMSELVES

It was good while it lasted, but 15 years after the Intel era began, Apple turned the page. Once again, the company was frustrated by the pace of chip development and its lack of control over one of its platforms. But there was a key difference this time: Apple had, for a decade, been designing its chips for the

iPhone and iPad. Developers were building apps in Xcode that compiled and ran on Apple's processors.

This was in many ways the easiest chip transition Apple has ever made. The tools were there. The developers were familiar with Apple's chips. Apple had years of experience to give it the confidence that it could apply what it had learned while building iPhone and iPad chips to create powerful Mac variants.

The first M1 Macs, such as the MacBook Pro (pictured), were the best-reviewed models in recent memory.

The results were immediate: The M1 Macs, when they arrived in the fall of 2020, were the best-reviewed Macs in recent memory. They were so much faster than their Intel predecessors that in some cases Rosetta 2, the latest version of Apple's code-translation layer, ran Intel apps faster than they did on the original Intel hardware.

The rise of the web and mobile platforms meant that Windows compatibility wasn't as important as it was in 2005. And in a pretty amusing wrinkle, Microsoft had already begun its own weird sort of chip transition, building a version of Windows that ran on processors very similar to those Apple was using. (It's even got its own code-translation layer. Clearly, Microsoft learned from the best.)

Which brings us to the final question: If Apple has changed its Mac chip architecture after 10, 11, and 15 years, does that mean the Apple silicon era will also end?

Anything's possible, especially in the tech industry—but the big difference is that now Apple designs its own chips, to its own specifications, in tandem with the products it builds. That's a huge advantage it's never had before.

Of course, Apple thought the same when it formed the AIM alliance—and when it tied itself to Intel, which was the world's dominant chipmaker at the start of that partnership but had been supplanted by TSMC by the time it ended. Life comes at you fast. But, at least for now, the Mac endures as the world and chips change around it. ■

30 years ago, Apple fans met the Mac clone. This is the weird, wild story

Three decades later, the legacy of Apple's weird decision is still with us.

BY JASON SNELL

Thirty years ago, the first Mac clones rolled off an assembly line in Austin, Texas. If you're not of a certain age, you might not even believe there once were Mac clones. For most of its existence, Apple has been a singular company, selling products that were a fusion of custom hardware and custom software.

But for about three wild years in the 1990s, Apple defied its own nature and allowed other companies to build computers that ran the Mac OS and competed directly with Apple. It was an

IMAGE: JASON SNELL

era that made some long-standing contributions to the history of the Mac, but also one that Steve Jobs dramatically ended pretty much the moment he returned to power at Apple.

BUT...WHY?

The mid-'90s was a weird time for Apple. Microsoft and Intel dominated the computer industry so much that Apple's tiny market share just kept shrinking, and Apple struggled to make money. You might think that allowing other companies to compete with Apple would just make things worse, but desperate times called for desperate measures, and Apple CEO Michael Spindler (who had taken over for the deposed longtime CEO John Sculley) decided to take those measures.

The clone strategy was designed to allow third-party hardware makers to create systems that served markets Apple didn't serve very well, allowing Mac OS to penetrate areas where Windows was winning and turn the tide. But that didn't happen. Instead, Apple found itself boxed in on both sides.

At the high end, Georgia-based DayStar Digital built the first multiprocessor Mac clones (fave.co/3I3X2cw) targeted at the professional publishing market. DayStar built expensive computers that were faster than any of Apple's systems, and it sold them to some of Apple's most profitable customers.

Meanwhile, Texas-based Power Computing took a page from Dell and started ramping up highly configurable beige clones, including both low-end and midrange models. They weren't pretty to look at, but neither were Apple's Macs during this era. Power Computing's killer feature was the fact that you could pick your device's specs to order and then order it on the web (or via fax!), and it would be shipped to you. This sounds completely normal today, but Power was likely the very first company to sell computers via a web-based configure-to-order system.

Most clones were based on existing Mac motherboard designs, especially in the early days. Basically, Apple did all the core hardware and software engineering—

The DayStar Genesis MP as it appeared in *Macworld* magazine.

and then let the clone makers take all of that and innovate their way into taking sales away from Apple.

When Steve Jobs took control of Apple in 1997, he put a stop to the clone licensing program immediately. (*Macworld*'s cover story was "Why Apple Pulled the Plug.") "Licensees does not begin to cover their share of the expenses to engineer and market the Mac OS platform," Jobs wrote in a memo to Apple employees. "Our Board is convinced that if Apple continues this practice the company will never return to profitability, no matter how well Apple performs, and the entire Macintosh 'ecosystem' will continue to decline, eventually killing both Apple and the clone manufacturers. This scenario has no winners—and customers end up with no Macintosh choice."

Jobs was pretty ruthless in killing the clones, too. Apple's license with clone makers covered the 7.x versions of classic Mac OS, so Apple changed the name of its next update to Mac OS 8, so that clone makers didn't have access to the latest version of the OS or any of the new chips that were only supported by Mac OS 8. Clone makers wanted to start building laptops, but the existing license didn't cover that, either. And Apple announced it wouldn't renew any of those licenses, which eliminated any hope of long-term business.

Jobs didn't find the entire clone industry to be a negative, though: Apple bought the core assets of Power Computing for $10 million in cash and $100 million in Apple stock. Part of that was probably an attempt to fend off lawsuits, but Jobs specifically cited Power's "expertise in direct marketing and sales" and "pioneering of direct marketing and sales (a direction we want to move it)" in announcing the sale. That was recognition that Power, with its web-based direct sales strategy, had hit on something that Apple needed to replicate—which it did!

While it's a popular perception that the clone market was one of the causes of Apple's near-bankruptcy in the late '90s, Jobs wrote that it wasn't true. Clones could really only amount for a tiny percentage of overall Mac OS computer sales—and meanwhile, "during the past two years the total number of Mac OS computers sold has declined by almost 20%." The bottom was dropping out, clones hadn't solved the problem, and Jobs saw them as a drain on resources that Apple simply couldn't afford.

THE LEGACY OF THE CLONES

There are a few surprising impacts of that brief clone era, even three decades later.

Obviously, Power's approach of custom-building computers to order became the standard across the industry,

The Mac OS name and logo were invented as a part of the clone licensing program.

and it certainly inspired Apple to change its processes to allow custom-built Macs to be directly ordered, rather than requiring users to pick from a set of stock configurations at a local or mail-order retailer.

The name Mac OS and the familiar two-smile symbol that now represents the macOS Finder both emerged from the clone era. Originally, there was no name for the Mac's operating system. We generally just called it "the System," which is why the groundbreaking 7.x update was called "System 7." With the arrival of clones—which couldn't be called Macs—there needed to be a way to turn the Mac operating system into a product, with a recognizable label and brand name, so that clone makers could explain that their devices weren't Macs but ran Mac software. The result was the Mac OS name and the accompanying dual-smiley logo.

And there's the entire approach the Mac takes to multi-threading software across multiple processor cores. It all emerged from the work Apple and clone maker DayStar Digital did to create the DayStar Genesis MP (fave.co/3I3X2cw) and, eventually, Apple's own Power Mac 9500/180 MP. In those days, the idea of putting additional processor chips inside a Mac to boost performance was novel, but if you were a high-end publishing professional, you would pay a lot of money to run Adobe Photoshop as fast as possible. So DayStar shipped a clone with two or even *four* PowerPC chips, and Apple and DayStar collaborated on the software that would allow a Mac OS device to send work to multiple processors.

That legacy lives on today in all of our multi-core Macs. And just now, I searched my own M4 MacBook Pro for the words "DayStar Digital" and found several header files, deep down in a directory installed by Xcode, that bear the notice: "Copyright 1995-2011 DayStar Digital, Inc." Thirty years later, that little legacy of a forgotten Mac clone lingers inside my Mac. ■

Apple's latest gaming efforts won't move the needle

If Apple wants gamers to take the Mac seriously, it's going to need to do a lot more.

BY JASON CROSS

Believe it or not, Apple is already dominant in gaming. *Most* games, globally, are played on mobile phones, and despite the greater sales of Android-powered phones, the iPhone is *the* mobile gaming device.

But it still feels like Apple is always looking to break through with real gamers. At Worldwide Developers Conference this year, it had another pitch for gamers and game developers, and it felt just like the last few years: big promises about how great gaming is on Apple's platforms, how great it can be for developers. There's even a dedicated Games app now!

However, just as the efforts of the last few years have been unsuccessful at turning Apple's platforms into something gamers care about, so too will this year's effort fail to move the needle. It boils down

IMAGE: APPLE

to the same thing: Apple just isn't tackling the core problems that keep gaming enthusiasts off its platforms.

THERE ARE GAMERS—AND THERE ARE *GAMERS*

By most accounts, about 3 billion or so people play video games, with about half of those primarily playing mobile games, with console and PC gamers split between the other half. Mobile gaming brings in a lot more revenue, too. So if you play games, mobile or otherwise, you're a gamer.

But then there are the *gamers*.

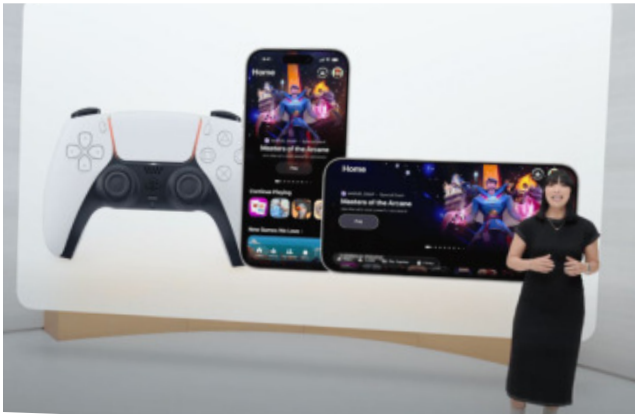
Apple's new gaming efforts are an attempt to attract this group, those people whose preferred entertainment is playing video games, who make it part of their cultural identity, and who play primarily on console or PC. This group of core enthusiasts is often focused on large-scale, big-budget AAA games—games you play with a controller or keyboard and mouse, not a touchscreen. These are the kind of big-brand games that spawn movies and TV shows.

Apple is definitely making it *possible* for those kinds of games to be on its platforms, but it's not making it *preferable* to play them or even publish them there.

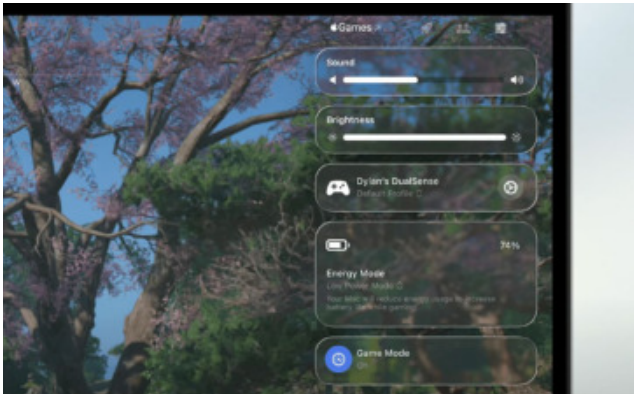
THE GAMES APP BARELY SCRATCHES THE SURFACE

To attract these core gamers, Apple is trying two things this year. One is introducing a new Games app on each of its gaming platforms—iPhone, iPad, and Mac—that pulls together your friends list, achievements, and leaderboards (from Game Center) for its social activities, such as issuing challenges to friends or playing multiplayer games. It also shows all the games you ever bought from the App Store and gives access to Apple Arcade.

This stuff is fine, but the most lackluster part of it is the social capabilities. System-level voice chat and parties that integrate with multiplayer games are table stakes for real gaming platforms, and it's just not a part of what Apple has built into its platform, for gamers or developers. And



The Games app is is made to navigate with a controller, in portrait or landscape. That's a start.



The new in-game overlay on Mac is a nice step forward.

on the Mac, the Games app isn't of much use if it doesn't pull in games you've installed from other stores or downloaded directly from the web.

It's not all useless. The new game overlay is long overdue. While you're in a game, it pulls up a quick overlay menu for relevant system settings or your friends list. It's years late, but at least it's here.

The other change is improvements to Metal 4 on macOS Tahoe and other developer tools. They're adding frame interpolation and de-noising. Again, it's years behind PC gaming, but at least Apple is closing the gap.

THE COST AND VALUE PROBLEM

The main issue that Apple hasn't addressed is simple: Nonmobile Mac gaming (fave.co/3w9uc4P) is a terrible value proposition for gamers, even by Apple's standards. People expect to pay a bit more for an Apple device, but to get equivalent gaming performance as a PlayStation 5—which is a five-year-old console that costs $450, mind you—you need at least an M4 Pro. And the cheapest way to get that is a $1,400 Mac mini.

A similarly priced gaming PC would deliver at least twice the actual real-world game performance as that Mac mini. To achieve decent performance in those top-end AAA games, you need to step up to a Mac Studio with M4 Max, and pay for the upgrade to the "full" version of the chip with 16 CPU cores and 40 GPU cores.

That's $2,500! And while you can definitely spend that much and more on a gaming PC, it would be a *lot* faster when it comes to playing games rather than editing video or audio with 100 tracks.

Think of it this way—what if an $800 iPhone actually delivered *half* the performance of some $500 Samsung Galaxy phone? When it comes to playing premium, AAA, controller- or keyboard-class games, that's where Apple's platforms are. You get half the performance at twice the price.

But there are other value problems, too. Apple's keyboards are terrible for gaming, so you need a replacement. Don't get me started on the company's mice.

Even if the games were there (and they're not, as I'll discuss below), Apple simply has nothing that comes close to a traditional console or a gaming PC in terms of cost and performance. We're not talking about the "Apple tax" of 10 or 20 percent—it's just *wildly* off base.

Apple needs to sell Macs with literally double the GPU performance at the same price, or an Apple TV that costs twice as much with six to eight times the graphics performance, to make them even reasonable—not leading—choices for gamers. It's just not going to happen.

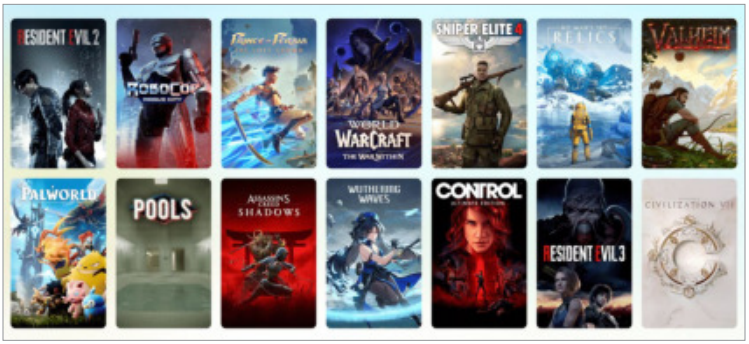
THE GAMES AREN'T THERE

Even if the hardware didn't have a terrible price-performance ratio, the games just aren't there. Apple's callout to big games on the way to Mac (fave.co/3Kqn7jJ) this year? *Crimson Desert* and *InZOI*, a couple of South Korean games that aren't anywhere near the top of a gamer's most-wanted list.

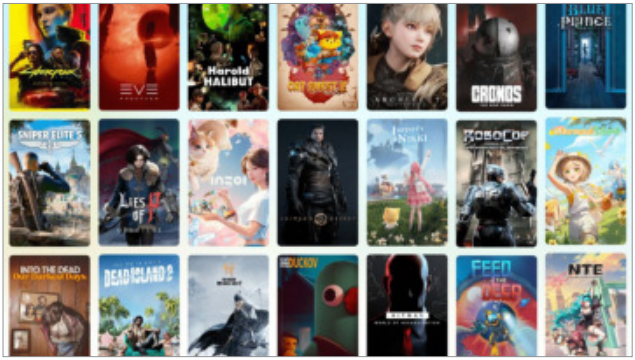
The "incredible games just arrived" slide was full of stuff first released on console or PC years ago, such as the *Resident Evil 2* and *3* remakes (2019 and 2020), *Sniper Elite 4* (2017), *Valheim* (2021), and *Control* (2019).

The "even more on the way" slide wasn't much better. *Sniper Elite 5*, *Cyberpunk 2077*, *Dead Island 2*, and the latest *Hitman* trilogy? These are perfectly fine games, but if you're a *gamer*, you played and moved on from them a long time ago. Basically, the future of premium, nonmobile gaming on an Apple gaming device is a tiny fraction of the hits from years ago.

Gamers care about playing the *latest* games, while they're still new and all the other gamers are still talking about them online, while Twitch viewers are tuning in. The best games of last year (or four years ago) just aren't part of the zeitgeist anymore.



A lot of these "recent arrivals" are pretty old games.



The upcoming games list doesn't represent what core gamers are looking forward to this year.

APPLE IS FOR MOBILE, NOT PREMIUM GAMING

Apple dominates mobile gaming because iPhones deliver the best game performance at competitive prices, and even the more affordable iPhones run circles around similarly priced Android phones. You can find a cheaper phone, but it won't come close to matching an iPhone's game performance. And perhaps more importantly, every major mobile game is a day one release on iPhone, sometimes exclusively.

It's *exactly the opposite* with the premium games that gamers care about. Macs give you far worse gaming performance at a far higher price than the consoles or Windows PCs Apple is trying to lure gamers from. The core gaming features, such as unified voice chat, parties, and multiple user log-in for couch co-op, just aren't there in any meaningful way. The games users care about most will be lucky to arrive on Apple's platforms in three or four years, with precious few exceptions (notably *Assassin's Creed Shadows*, fave.co/3G1TjvA).

An Apple TV 4K is cheaper than most consoles, but it's about as powerful as a 13-year-old PlayStation 4. It needs literally *eight times* the graphics performance to catch up to a five-year-old PS5. That's just not going to cut it with gamers, and it's not even close.

Imagine if the iPhone found itself in the same situation as Apple's other platforms, with respect to gaming: as a bit player in mobile gaming market because other phones offer more than twice the game performance at a lower price and had all the hot games years ahead of iPhone. What would Apple do? What changes would it make to iPhone hardware and software, and to its policies and business decisions that affect gamers and game publishers?

Those changes, not a new gaming app, are what Apple needs to make with the Mac and Apple TV if it wants to move the needle with gamers. ■

If you own an Intel Mac, you have 12 months to upgrade to a new model

Apple confirms that macOS 27 will only support Apple Silicon.

BY MICHAEL SIMON

Apple in June unveiled the latest version of macOS and in the process cut a bunch of Intel Macs from the compatibility list. But if you have one of the lucky models that made it through, there's bad news on the horizon—Apple has announced that macOS 26 Tahoe (fave.co/40tNQ7w) will be the final version that supports any Intel Macs (fave.co/3oyPNQo).

As it stands, just a handful of Intel Macs support macOS Tahoe:

> The 13-inch MacBook Pro from 2020 with four Thunderbolt ports

IMAGE: APPLE

The 2020 MacBook Pro with four Thunderbolt ports is one of the few Intel Macs to support macOS Tahoe.

> The 16-inch MacBook Pro from 2019
> The 27-inch iMac from 2020
> The Mac Pro from 2019

That's somewhat surprising, since macOS Sequoia (fave.co/3JCjJlw) retained support for a surprising number of Intel Macs. Tahoe drops support for a variety of Mac models, including:

> MacBook Air (Retina, 13-inch, 2020)
> MacBook Pro (13-inch, 2018, four Thunderbolt 3 ports)
> MacBook Pro (15-inch, 2018)
> MacBook Pro (13-inch, 2019, four Thunderbolt 3 ports)
> MacBook Pro (15-inch, 2019)
> MacBook Pro (13-inch, 2019, two Thunderbolt 3 ports)
> MacBook Pro (13-inch, 2020, two Thunderbolt 3 ports)
> iMac (Retina 5K, 27-inch, 2019)
> iMac (Retina 4K, 21.5-inch, 2019)
> iMac Pro (2017)
> Mac mini (2018)

The Macs above will still get security updates (fave.co/3OqicCf) for two years, so they're not exactly obsolete, but less than five years of OS updates in this case of the MacBook Air is somewhat out of character for Apple. So it's clear that Apple wants to quickly move away from designing new OSes for two sets of processors.

When explaining the move to the Liquid Glass interface, Apple said that the Apple Silicon had enabled "software materials and experiences we once could only dream of." And sadly, those dreams don't include Intel chips. ■

Owners of the 2020 13-inch Retina MacBook Air won't be able to download Apple's upcoming OS.

Talk it out.
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But it helps.

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Your Mind

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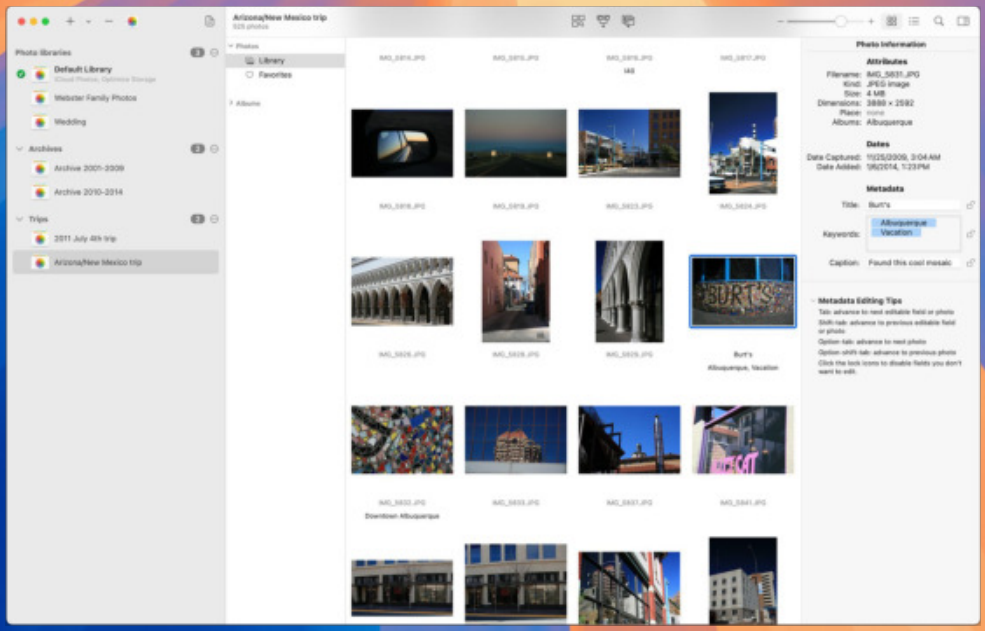


PHOTO-EDITING SOFTWARE

POWERPHOTOS 3: TIME-SAVING APPLE PHOTOS TOOL FOR POWER USERS ON THE MAC

BY GLENN FLEISHMAN

Macworld EDITORS' CHOICE

Since its first appearance in 2015, PowerPhotos (fave.co/3XpwB4p) continues to offer features Apple doesn't provide in Photos for macOS, making PowerPhotos a must-have for people who want to get the most from Apple's app. Photos does improve with every release, but developer Brian Webster continues to update PowerPhotos to make up for what's missing, improving past features and adding more refinements. Version 3 brings a couple of key upgrades as well as big bumps in performance.

IMAGE: FAT CAT SOFTWARE

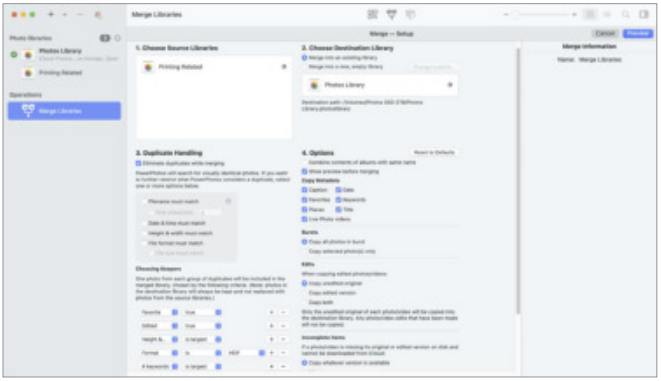
The app's update, priced at $39.95 for new users, includes new and improved capabilities such as bulk editing metadata (like titles and keywords), using templating to apply incremented counters and other placeholders to groups of media, searching and de-duplicating across multiple Photos libraries, and manipulating media and albums within the app as if you were using Photos. The advanced search options exceed Photos' smart folder options.

FILLS A GAP IN PHOTOS THAT APPLE STILL HASN'T BRIDGED

Consider Apple's Photos as a basic package on one end of the media management spectrum and Adobe's current Lightroom (in two versions) as an advanced option at the other end. (Apple's Aperture used to compete there, fave.co/44Bh078.) Photos offers library organization and, with many improvements over the years, photo editing; Lightroom has both, with far more sophisticated ways to modify and shape images, along with more flexibility in how media is organized and stored.

For users who don't need all the advanced features of Lightroom and like the friendliness and deep Apple operating system integration, PowerPhotos 3 provides an affordable set of extras. It works natively with Apple Photos Library format, so you don't give up what you like within Photos. PowerPhotos has no image-editing tools, leaving that territory to Apple and third-party standalone apps.

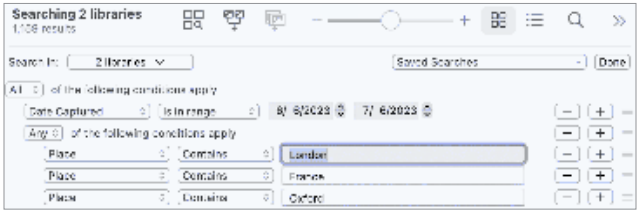
PowerPhotos fills in Photos' gaps by letting you work with and around libraries better than Photos works with a single one. Since its launch, it's been the only way to merge libraries and drag-and-drop media from one library to another. If you maintain or want to create multiple Photos libraries to handle your collections or break up a massive library into smaller pieces, PowerPhotos remains the only tool that provides the management features you need for this.



If you need to merge Photos libraries, PowerPhotos is the only recourse. You can de-duplicate in the process.

Version 2 added powerful de-duplication so

you could remove identical or near-identical images with many options for controlling how close a match you made, reducing storage use and confusion over which image you wanted. Version 3 extends de-dupe across all the libraries you select.



You can have fiendishly complicated searches by mixing All and Any with criteria. I took a lot of photos on that 2023 trip.

The new version adds to the previous ability to copy albums and media from one library to another the option to move albums or media instead. To prevent media losses while the move is underway, PowerPhotos uses the gold standard of first copying the items to the other library before deleting them from the original.

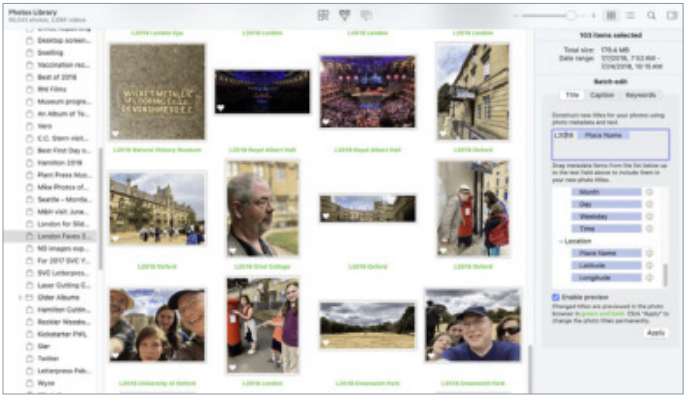
A MORE POWERFUL SEARCH AND BULK INFORMATION EDITING

The keystone features of PowerPhotos 3 are an advanced set of search options and the addition of multiple-item (or bulk) metadata editing, which lets you change the title or caption associated with your images or photos using tokens (like Year, Height in pixels, or Place Name).

You will recognize the search feature setup from the way Apple structures smart folders, albums, and Finder Spotlight searches. You can set multiple criteria, nest them, and choose whether to make each nested set of criteria all required (like “larger than 1 MB and taken in Italy”) or allow just one to match (like “in the ‘Italy’ album or ‘France’ album or ‘Liechtenstein’ album”). Criteria for these searches include several that aren’t available in Photos, such as file size or the height or width of a photo.

You can save searches and reuse them later. You can also opt to search a single Photos library or across multiple libraries, further leveraging the use of dividing your media among libraries without making it harder to find what you want.

The option to bulk edit metadata should not be underestimated. Apple’s Photos offers the Inspector pane, which lets you set title, keywords, and other parameters for a set of images and photos (or one at a time). However, Apple’s tool lacks tokens, which can stand in when you’re renaming the title or reformulating the caption. Even more robustly, PowerPhotos 3 includes a Counter token, which automatically increments by one from the first selected photo or video in



In this example, I see the preview of adding the Location to the title metadata.

your set. (I have previously turned to A Better Finder Attributes for this, fave.co/44D1wj5.)

You can use this bulk editing to turn a bunch of files named IMG_1733 with no captions into ones titled with a piece of text, like "Trip to California," followed by the date or time in any arrangement you like, and even the place name. For captions, you could include a lot of extra detail useful when reviewing photos, including the exact time in seconds or the height and width in pixels. Changes are previewed in the thumbnail view.

The bulk editor includes keyword editing, allowing you to select from a list of all keywords in the library or add your own. The developer also updated the app so that all metadata work can be done without your hands leaving the keyboard.

More minor updates that still prove useful include a more full-featured photo browser and photo viewer within the app. Nearly all operations you can perform in Photos, like managing albums and moving media, can now be done inside PowerPhotos. A new photo viewer lets you see images within the app instead of using macOS's Quick Look window. The app has had noticeable improvements in speed with loading libraries and viewing images.

PowerPhotos 3

PROS

- Views, searches, and de-duplicates media across one or more Photos libraries.
- Copies and moves media among libraries.
- Advanced search options for fine-grained queries.

CONS

- Lacks date-time adjustment.

PRICE

$40

COMPANY

Fat Cat Software

VERDICT

If you are stymied by the limitations in Photos, don't waste a second before getting PowerPhotos. It's an app that complements Photos in basic and advanced ways, unlocking otherwise unavailable power without sacrificing compatibility with Apple's library format. ■

PORTABLE MONITOR

UPERFECT DELTA MAX TOUCH: ADJUSTABLE FOLDING DUAL-SCREEN 18.5-INCH HD PORTABLE MONITOR

BY SIMON JARY

External displays can transform a MacBook into a workable desktop setup, freeing the laptop user from the constraints of the smaller screen—even the spacious 16-inch display. Portable external displays give the extra benefit of being transportable and easily stored away when not required.

The UPerfect Delta Max Touch (fave.co/3TbDYLV) stands out from the portable external display crowd being a stacked set of two screens, each of which can operate as a touchscreen—more on the debatable touch element later.

PORTABLE DESIGN

The Delta Max Touch is a set of two 18.5-inch screens that are joined at a hinged center. They can be adjusted to the best-

IMAGE: UPERFECT

suited angle depending on your situation, and folded completely to create a slim portable package that you can slip under your arm or carry in one hand.

How much you carry the monitor around may depend on your strength or size of backpack. UPerfect describes the folded dual display as “Feather Like.” You would need a lot of feathers to match the 5.21lb (2.36kg) weight.

That said, it is easily liftable and folds up to a manageable 16.73×10.24×0.79 inches (42.5×26×2cm). It is simple to carry, but you wouldn’t want to hold it in your arms too long or carry it in your backpack for hours.

It is certainly more portable than a standard external display, let alone two. We can envisage it being a dual display that you can fold and store out of sight when working from home, or commuting short distances to an office or farther afield in a car. It unfolds to 16.73×20.47×0.39 inches (42.5×52×1cm).

It looks sleek in black aluminum, with a built-in stand folded flush to the outside of the lower screen. You can modify the angle of the stand to adjust the height and the angle of the screen to suit your best working posture.

The central hinge also allows for flexible adjustment of the two screens to a comfortable and ergonomic angle when used in either a stacked arrangement or folded back on itself to share meeting content with people facing you—say, so you can look at one screen and the clients on the other side of the meeting can see the other screen.

The 18.5-inch dual display is not too much bigger than a 14-inch MacBook Pro when folded shut, making it easy to carry and store.

The standard way of adding more than one external display is to have two external monitors side by side, creating a wide extended screen display, with a gap in between where the first monitor ends and the next begins.

While this works well for most people,

the extended screens mean you are constantly rotating your neck and shoulders when looking at or moving things between the two, which over time can cause neck pain.

A vertically stacked monitor, on the other hand, can be more ergonomic, as the body doesn't need to frequently turn left and right. The line of sight remains directly in front of the user, reducing frequent rotation of the neck. Of course, there is more up-and-down neck movement, but with the adjustable stand, this can be reduced a little to make viewing more comfortable. It can stand almost flat straight on to the viewer.

The monitor's stand is easy to adjust and sits flush to the monitor back when folded right back.

It is certainly an improvement on staring down at a small laptop screen, with your shoulders hunched and eyes squinting. A decent laptop stand—discover the best MacBook stands (fave.co/3NtVaJd) we have tested—can help alleviate laptop users' bent-back syndrome, but we like the Delta's upright dual-screen approach.

Previously we have used the larger Mobile Pixels Geminos Dual Vertical FHD Monitor (fave.co/42eTDya) stacked monitors, but the greater size did sometimes mean more looking up at an unnatural angle, which brought its own neck issues.

We are interested to try out the forthcoming 23.8-inch Delta Mega dual display to see if the increased size creates more up and down neck movement.

While there is no gravity sensor to work out which orientation you have set up your monitors, they can be set to Portrait mode if you alter the Rotation in the Mac's System Settings ➜ Displays.

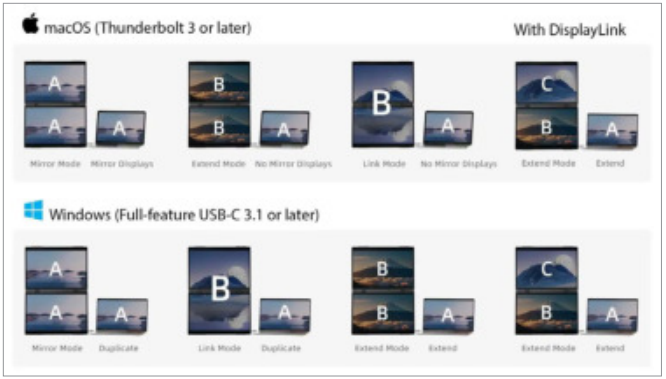
There are four 75×75mm holes on the back of the monitor, so you can affix a VESA Mount if you want to install the stacked monitor on an arm or on the wall to save desk space.

VIDEO SETTINGS

The UPerfect Delta Max Touch is impressively flexible in its display options. The screens can be set in four configurations, using either USB-C or HDMI connections.

First, all three screens—laptop plus dual-screen Delta Max—can show the same mirrored display (**A**, **A**, **A** in the illustration below). This could be useful if using the Delta Max in its inverted V shape with one screen facing opposite the other if you want the same screen on both plus your commanding laptop. Scenarios include presentations to colleagues or clients.

Second, each of the two Delta screens can show the same image, while the laptop shows another (**B**, **B**, **A**), which would be useful in the meeting setup described above but where the user wants a different screen on their laptop.



The Delta Max Touch has an impressive array of display options.

Third, the two Delta screens can merge to show one larger screen while the laptop shows another (big **B**, **A**) in UPerfect's Sequence mode on the On Screen Display (OSD). In effect, this creates a large second monitor, although the merger isn't seamless, with the hinge and screen bezel interrupting the join in the middle. This can be annoying, but the two screens as one works well in traditional Extended modes. You'll get a similar disconnect using standalone external displays.

Finally, each screen can display a different image (**A**, **B**, **C**). This is native in Windows but requires free-to-download third-party software—either DisplayLink or InstantView—to work on a Mac. UPerfect doesn't state this as a Mac option, but we got it working using InstantView and just the USB-C connection, not even requiring the HDMI option. We include more detail about how to install and use DisplayLink in another screen tutorial (fave.co/3WFB3x1).

You need to play around with the OSD controls and set the mode to what UPerfect calls StandAlong, which I presume is a mistranslation of Standalone.

The Delta Max can also support two devices connected at the same

With the monitor folded into an inverted V shape, two people can use the device at the same time.

time, with each computer controlling one of the screens.

As well as working with laptop and desktop Mac and Windows computers, it works with iPhone or games consoles.

With the monitor folded back into an inverted V shape, User X could work on one screen while User Y worked on the other, quite independently—meaning this one monitor could provide external screen support for two colleagues on the same table as each screen can be controlled by different computers at the same time.

VIDEO QUALITY

The picture quality and pixel density on this IPS panel display are excellent, with a 100% sRGB Color Gamut.

Each screen has a max full HD resolution of 1920×1080 pixels, with a 16:9 display ratio. If you are after a 4K monitor, this is not for you, but HD is all productivity professionals should require. As a touchscreen, it should also appeal to creatives, but you wouldn't expect a 4K touchscreen at this price, let alone a foldable dual-screen portable at that high a resolution.

UPerfect claims up to a 100Hz refresh rate on the Delta Max, but we could only get it to 60Hz on the Mac—still respectable for nongamers. Apparently 100Hz is possible only in the Clone mode that mirrors the top and bottom screen, but I found this too tricky to achieve due to the vagaries of the OSD. Brightness is up to 300 nits (cd/m^2).

UPerfect employs Ucare low-blue-light technology to reduce blue light and therefore eye fatigue. This is turned on using the On Screen Display, and it does impact color quality.

TOUCH TOO BASIC ON MAC

There's no extra software for the touchscreen, so there's little customization of gestures and swipes and so forth. Indeed, when you're using a Mac, the touch controls are very basic.

We could move folders and windows around using a finger, but not all apps played ball. And the touch controls worked

better on the bottom screen than the top. It turns out that while it's a 10-point touchscreen for Windows, it's just one-touch for Mac, which is more a limitation of the macOS than the monitor itself. Other touchscreen monitors do work with the Mac through third-party software—an option lacking with the Delta Max Touch. Even basic touch functions such as pinch and zoom either didn't work and others were sporadically functional.

If it's full touch control on a Mac you are after, go for a more pro touch monitor such as the Alogic Clarity Pro Touch (fave.co/48lU8Sk). Read our full roundup of the best monitors for Mac (fave.co/435WylB).

SIDE PORTS AND POWER

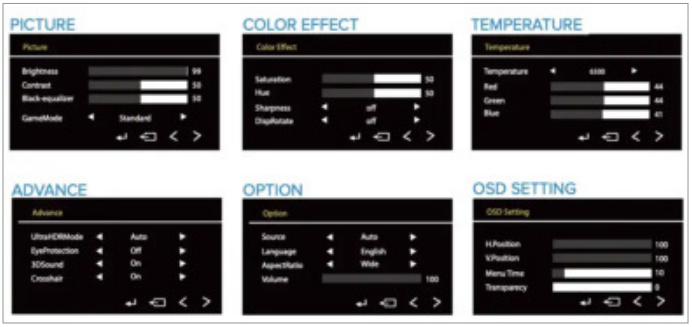
On the right side of the lower monitor are five ports. The bottom USB-C input port is to power the screens, and this power can also be channeled to the connected laptop at 25W. Above that, the next USB-C port is to link to your MacBook's Thunderbolt port to create the video data connection. You need only one USB-C cable to use both screens.

There are two Mini HDMI ports, so if you're connecting two computers, one or both could use HDMI as the connector. The monitor ships with two Mini-HDMI–to–HDMI cables as well as a couple of USB-C–to–USB-C cables. We found the single USB-C connection to be all that we needed.

A 45W USB-C wall charger is also included. The monitor itself uses 16W, so only 25W is left over for passthrough to the connected laptop. That's just about enough to keep you going on a smaller MacBook, although even our 14-inch M2 MacBook Pro never ran out of juice when connected to the Delta Max. For power security, we'd recommend at least a 65W PD power adapter. See our roundup for the best USB-C PD chargers for Mac (fave.co/3Aopnms).

The Delta Max Touch's connectivity options.

Some portable monitors include a built-in battery so you can use it when away from a power source. The Delta Max Touch doesn't have one, so you need to be connected to a power source via USB-C when using it.



With a lack of detailed instructions, it takes trial and error to master the monitor's controls.

CONTROLS

On the other side of the monitor are four buttons to control the On Screen Display (OSD) options, such as Picture (Brightness, Contrast, Black Equalizer), Color Effects (Saturation, Hue, Sharpness), Display Rotation, Aspect Ratio, and Volume.

With the lack of detailed instructions, you just have to get the hang of how these work, twiddling pulley buttons and clicking others until you work out its logic. To be fair, it's rare to find a monitor with an intuitive OSD, and we did master them after a half hour or so of trial and error and a little mild cursing.

The monitor comes with a thin and not too helpful four-page user manual, but you can find a slightly more detailed PDF manual online, although Mac instructions aren't well catered for.

The Delta Max is a reasonably plug-and-play product—you connect it to your Mac or Macs using either the USB-C or HDMI cable and do the setup on the Mac's System Settings—but the scant instructions don't mention touch (perhaps wisely) and they only include details for Windows users.

SPEAKERS

The monitor has a built-in 1W speaker, which unsurprisingly we found tinny compared to the speaker in even our connected M2 MacBook Pro. This lack of bass or fullness is typical of monitor speakers. It's fine for voice calls and basic spoken videos but not an immersive theater sound if you are watching a movie or playing an action game.

UPerfect's monitor has a built-in 1W speaker.

The Delta Max is a great solution if you want a portable extended dual screen.

PRICE

The Delta Max Touch is priced starting at $499.99 (fave.co/4kVuWia) or £369 (fave.co/4kVuWia) for the No Touch version, which we'd recommend as the touch control are so basic using a Mac. Adding touch, the price rises to $599.99 or £445. If you do find the No Touch model cheaper, then maybe opt for that, but we wouldn't advise that Mac users pay extra for touch.

For a dual-screen monitor this flexible, we think the price is reasonable, taking into consideration its foldability and adjustable orientations.

UPerfect also sells a $649.99 Delta Mega (fave.co/46gsE8H) version with dual 23.8-inch screens, which work better for chart or spreadsheet work. This model lacks any touch controls, which doesn't bother us as we found the Delta Max's touch inadequate when using a Mac. We hope to review this model soon to compare the screen sizes, but we expect it to operate in a similar fashion in other respects.

(UPerfect is offering $60 off for orders above $400 using the code Macworld60, and $80 off orders above $500.)

VERDICT

Ignore the poor touch functions, and the Delta Max is a great solution if you want a good-looking, well-built, and super-adjustable portable extended dual screen that connects to your laptop for a more spacious screen experience that can be folded away to a superslim package when not in use. The ability to run off two computers and the flexibility to bend right back to offer front and back mirrored screens could be the solutions you are looking for in an adaptable dual-screen display. ■

UPerfect Delta Max Touch

PROS

- Quality dual HD screens.
- Foldable.
- Flexible adjustments.

CONS

- Touch basic and sporadic.
- Scant instructions.

PRICE

$499 / £369

COMPANY

UPerfect

THUNDERBOLT 5 DOCK

CALDIGIT THUNDERBOLT 5 ELEMENT 5 HUB: EASILY OUR TOP-RATED THUNDERBOLT 5 HUB / MINI DOCK

BY SIMON JARY

Macworld EDITORS' CHOICE

The CalDigit Element 5 Hub is the successor to the company's award-winning Thunderbolt 4 Element Hub, replacing the Thunderbolt 4 (TB4) ports with the double-speed Thunderbolt 5 (TB5) and even squeezing in an extra USB port for good measure. Just as the CalDigit Element 4 Hub (fave.co/3XodgSY) was our recommended Thunderbolt 4 hub, the Element 5 takes over its position at the top of the Mac hub hierarchy.

SPECS AND FEATURES

> One upstream Thunderbolt 5 port (80Gbps/120Gbps, 90W)

> Three downstream Thunderbolt 5 ports (80Gbps, 15W)

> Two USB-C ports (10Gbps, 7.5W)

IMAGE: CALDIGIT

> Three USB-A ports (10Gbps, 7.5W)
> 180W power supply

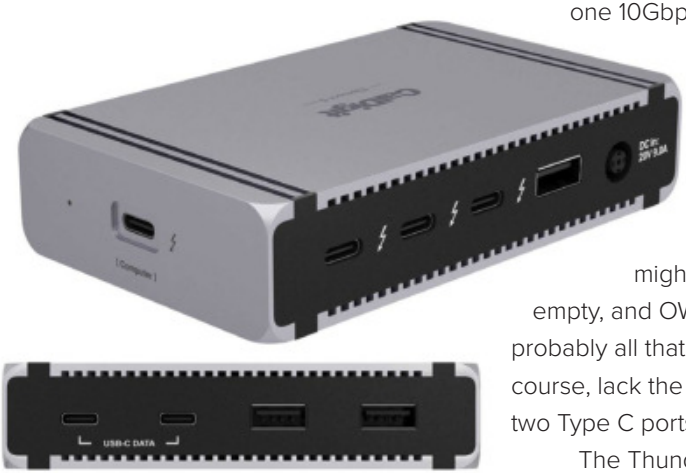
The Element 5 Hub boasts five Thunderbolt 5 ports, each offering blisteringly fast 80Gbps data transfer and when utilizing Bandwidth Boost can provide up to 120Gbps bandwidth for display purposes.

The upstream TB5 port that connects to your computer can also deliver up to 90W of power to a laptop. That's enough to fast-charge the majority of Apple's MacBooks, although it won't fast-charge the top-end 14- or 16-inch Pro/Max MacBook Pro. For that you'll need a dock that can supply 140W. But 90W is still generous and enough for most laptop setups.

The downstream TB5 ports can each supply 15W of power, and the USB-C and USB-A ports have potential for 7.5W each. The external power supply provides a decent 180W—up from 150W with the Element 4—which is the same offered by even a full-scale docking station such as the Sonnet Echo 13 Thunderbolt 5 Dock. All the USB ports—two USB-C and three USB-A— are rated at a fast 10Gbps.

Thunderbolt 5 is much more of an upgrade than Thunderbolt 4 was from Thunderbolt 3. It can provide up to 6,200MBps performance for external storage devices, for example, which is double that of Thunderbolt 4.

With nine ports in total, the Element 5 Hub offers more than any other Thunderbolt hub we've seen or tested, including even the eight-port Element 4 Hub. The OWC Thunderbolt 5 Hub (fave.co/4ezQnmz) offers four TB5 ports and one 10Gbps USB-A port.



The Element 5 Hub has five Thunderbolt 5 ports.

While three USB-A ports should be plenty for legacy devices, most accessories are now firmly in the USB-C camp, so you might have one or two left empty, and OWC's one USB-A port is probably all that's required. It does, of course, lack the Element 5 Hub's extra two Type C ports.

The Thunderbolt 5 ports can be used to connect USB-C devices, of

course, so up to five can be accommodated using this hub.

A full docking station will have many more ports of different type, such as fast Ethernet for wired network access, card readers, display connections and audio ports, but with a few inexpensive adapters the Element 5's nine ports may be all you need.

The Element 5 Hub can connect to dual 6K or 8K 60Hz extended displays on Macs.

Because it features so many ports, the Element 5 Hub is a serious candidate to consider for desktop users as well as laptop owners and will be a match for docking stations depending on your needs.

You could add an Ethernet adapter, such as the Ugreen USB-C to 2.5G Ethernet Adapter (fave.co/40gcf0z), or card reader functionality via a USB-C adapter, for example.

DISPLAY OPTIONS

While it doesn't host a DisplayPort or HDMI port, the Element 5 Hub can connect to dual 6K or 8K 60Hz extended displays on Macs. These require no display adapter when the monitors support a USB-C or Thunderbolt connection but will if your display demands a DisplayPort or HDMI connection.

(When connected to Windows Thunderbolt 5 PCs, the Element 5 Hub supports up to three external extended displays with Bandwidth Boost in use. Note that when Bandwidth Boost is in operation, the rest of the hub drops to 40Gbps. Unless attached to a DisplayLink dock, macOS doesn't support triple monitors via a Thunderbolt Dock or Hub.)

For the Mac, the Element 5 Hub can support two 6K displays at 60Hz or 4K displays at 144Hz.

Note that Apple's plain (non-Pro or Max) M1- and M2-based computers support just one external monitor. Although it is possible to connect two or more displays to M1 and M2 Macs through use of DisplayLink adapters, the Element 5 Hub does not support DisplayLink. However, we expect most people interested in a powerful Thunderbolt hub will own a MacBook with a Pro or Max processor.

This is one of the smallest Thunderbolt 5 docks on the market.

The Element 5 Hub is compatible not just with Macs but with USB-C or Thunderbolt iPads and iPhones, as well as Windows tablets.

DESIGN AND BUILD

If used as a dock, the Element 5 Hub is one of the smallest you'll find with its own power supply, measuring 4.5×2.75×1 inch (11.4×7×2.5cm) and weighing just 200g (0.44lbs). That's about the same size as a fat pack of cards and shorter than an iPhone, and only marginally larger than the older Element 4 Hub.

You might even lose track of it as it sits neatly on your desk, unless, of course, it has nine cables sticking out it alongside the power cable.

The power brick is about the same size, and so is much smaller than that of the Element 4 Hub, which was pretty chunky. It's not impossible that you could use the Element 5 as a portable hub. It's built with aluminum and feels sturdier than cheaper USB-C hubs.

The hub is reversible, so you can place either the three downstream TB5 ports and one USB-A port at the front or on the other side with two USB-C and two USB-A. This is made possible by CalDigit being smart enough to position the upstream TB5 port on one side of the hub, which is a

The diminutive design means the hub doesn't take up much space.

much better placement than on the front as some hub and dock manufacturers do.

It ships with a 0.8m Thunderbolt 5 cable.

This is a compact and well-priced Thunderbolt 5 hub.

PRICE

The Element 5 Hub costs US$299.99, £249.99, or €249.99. That's a little more than the Element 4 Hub (fave.co/3LjZXM5), and about $100 more than the less-ported OWC Thunderbolt 5 Hub (fave.co/44gfHux).

It's more expensive than standard TB4 or USB-C hubs but it's packed with the latest and most sophisticated technology and far more future-proof. For a nine-port Thunderbolt 5 hub, that extra spend is justified, and if you use it instead of a fully stocked dock, it will save you money.

There are many types of hubs available to Mac users, plus multifunction adapters and docks. Check out our roundups of the best USB-C hubs and adapters for Mac (fave.co/3x6fSu9) and best Thunderbolt docks for MacBook (fave.co/3h1wVoY).

CalDigit Thunderbolt 5 Element 5 Hub

PROS

- Nine ports, yet compact.
- Four Thunderbolt 5 ports.
- Five USB ports.

CONS

- May require HDMI or DisplayPort adapters.

PRICE

$299 / £249

COMPANY

CalDigit

VERDICT

You won't find any more modern USB and Thunderbolt ports on a hub than you get with CalDigit's compact and well-priced Thunderbolt 5 Element 5 Hub, and they are all rated at top speeds. The 90W power delivery is enough for most laptops, and other devices should be fully powered too.

Although it's not quite as convenient as a larger docking station, it can even be used as a fully functional laptop Thunderbolt 5 dock with the right adapters. Cleverly designed, compact enough to be relatively portable, and stocked with top-end ports, the Element 5 Hub is easily our top-rated Thunderbolt 5 hub/mini dock. ■

SSD ENCLOSURE

SATECHI MINI NVME SSD ENCLOSURE: CREATE A FAST, HIGH-CAPACITY USB STICK

BY THOMAS BERGBOLD

The Satechi M.2 NMVe Mini SSD enclosure is a hybrid USB stick and external SSD enclosure. Since it's an enclosure, it doesn't include the SSD module; you provide your own. You have to use the small 2230 mm M.2 SSDs, which can be tricky to find.

The enclosure has a very compact design, measuring 4.5×3×1.3 centimeters, and weighs just 35 grams. The housing is

IMAGE: SATECHI

made of aluminum, and you can see the SSD through an integrated tempered glass window.

A fast SSD in a small housing often results in a device that gets warm (sometimes hot) to the touch. An active fan and air slots are used for cooling. The fan is temperature controlled and the volume should fluctuate between 40 and 60 decibels. At 50 degrees Celsius, it reaches up to 10,000 revolutions per minute. Together with the integrated air slots, this should prevent thermal throttling. However, the fan runs continuously. If you use the M.2 NMVe Mini SSD enclosure with the iPhone, you should avoid using the internal iPhone microphones and use external microphones.

The USB-C device offers speeds 897MBps when writing and 995MBps when reading.

The enclosure has an integrated glass window.

Satechi Mini NVMe SSD Enclosure

PROS

- High data transfer rates.
- Compact dimensions.
- Long USB-C connector fits with thick protective covers.

CONS

- Fan always runs.

PRICE

$60

COMPANY

Satechi

Satechi includes a 20-cm extension cable.

VERDICT

If you are looking for a compact M.2 NVMe SSD enclosure that can be used on Mac, iPad, and iPhone, there are not many alternatives to the Satechi enclosure. It offers good speed, but its continuous fan may be an issue if noise is a concern. ■

Hot Stuff

What we're raving about this month

1-BIT RAINBOW PICO MICRO MAC

1bitrainbow.com

This tiny replica of the original Macintosh measures just under 2.5 inches tall (that's about half the height of a Coke can), with a 2-inch TFT panel for the display, an SD Card slot (though sadly not in the front where the floppy was), and a single USB-C port. A custom splitter cable supplies power to the Pico Mac Nano along with an extra USB-A port for connecting a keyboard or mouse..–**ROMAN LOYOLA**

SATECHI USB4 SLIM NVME SSD ENCLOSURE

satechi.net

This thin and stylish enclosure can house 2230, 2242, 2260, and 2280 SSD modules with transfer speeds up to 40Gbps. While it matches and fits atop the Mac mini perfectly , it can be used with any Mac by connecting to a USB-C port. Satechi includes instructions for easily installing your NVMe SSD module. **–ROMAN LOYOLA**

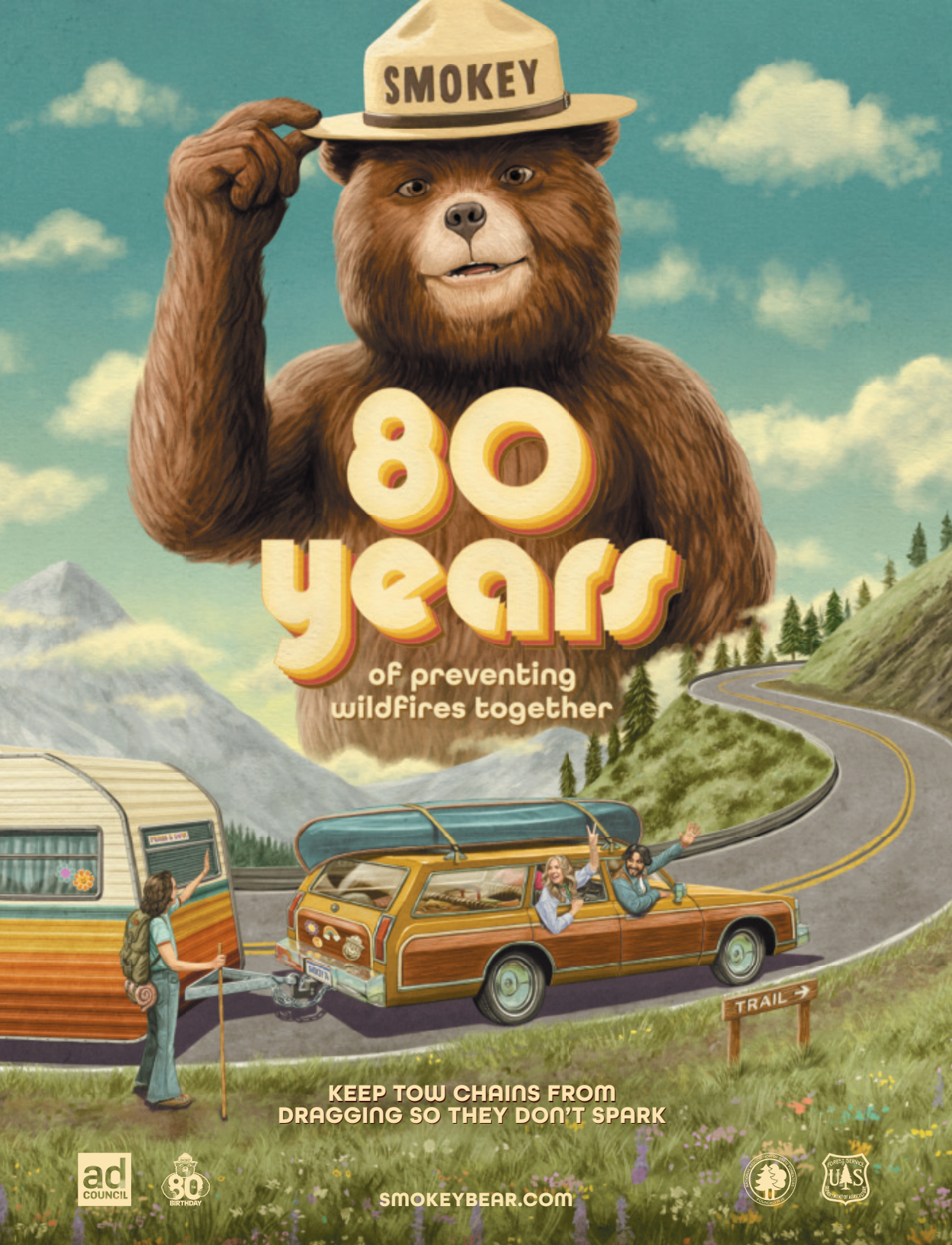
Hot Stuff

OTTERBOX MOBILE DEVICE CARE KIT

otterbox.com

Admit it, your iPhone is a mess. Whether it's in your grubby hands, dropped in the dirt, smeared with remnants from lunch, or (god forbid) found its way into an very unsanitary position, it needs to be cleaned. If you're going to pay all that money for your iPhone, invest in a proper cleaning kit like the one from Otterbox, which includes brushes, clothes, and wipes to make your iPhone look like new. **—ROMAN LOYOLA**

WWF
love it or lose it
Time is running out to protect the Northern Great Plains.
Act now. wwf.org
wwf.org


SMOKEY
80 years
of preventing wildfires together
TRAIL
KEEP TOW CHAINS FROM DRAGGING SO THEY DON'T SPARK
ad COUNCIL
80 BIRTHDAY
SMOKEYBEAR.COM

iPadOS 26 brings a new design and Mac-like multitasking at last

Apple has streamlined iPadOS to work more like the Mac, starting with a sleek universal interface.

BY FILIPE ESPOSITO

Apple has just unveiled iPadOS 26 (yes, you read that right) at the Worldwide Developers Conference opening keynote. The update not only brings a brand-new interface for the iPad's operating system, but also improves many aspects of iPadOS to make it more like macOS.

From the new Liquid Glass design language to more desktop features and a few extra apps, these are the main new features coming to your iPad with iPadOS 26 (fave.co/4IppRP4).

iPADOS 26, NOT 19

As strange as it may sound, the successor to iPadOS 18 is not version 19, but 26. That's because Apple has finally decided to unify the version number of all its operating systems. This means that iOS (fave.co/44uVU9u), iPadOS, macOS (fave.co/40tNQ7w), watchOS (fave.co/4Iwe5Co), tvOS and visionOS are all now at version 26.

"Why 26?" you ask. The answer is because the new operating systems will be released to the public in September, so

IMAGE: APPLE

they'll be marketed as 2026 software. So now every new version of Apple's operating systems will be associated with the following year in the calendar, like a new car model.

NEW LIQUID GLASS DESIGN

After many rumors, Apple has unveiled its new "Liquid Glass" interface, which is available not only on iPadOS 26, but also across all its operating systems. From the Lock Screen to the system apps, the interface now simulates glass with reflections and shadows that refract and reflect light and interface elements that float above content below it.

On the iPhone and iPad, the Liquid Glass interface responds to movements with dynamic reflections and brings back the parallax effect to the wallpaper. App icons now adapt to light and dark modes with updated color tints, and there's a new mode that makes app icons and widgets completely translucent.

Apple's Liquid Glass design will extend across all of its devices.

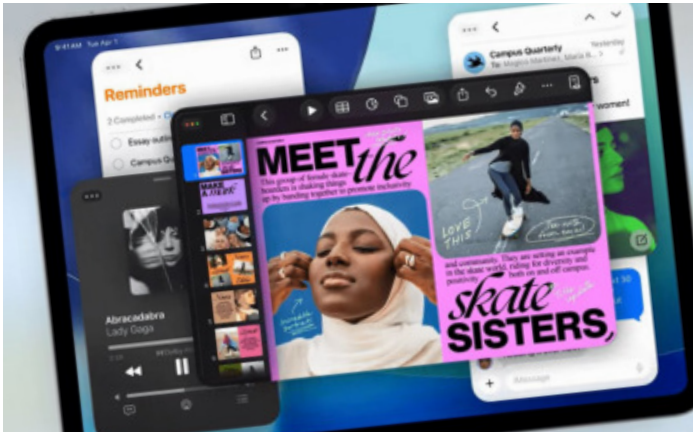
This updated interface also extends to core iPad apps, including Safari, Apple TV, and Music, which adopt the new menus and controls.

DESKTOP-LIKE WINDOWING

When it comes to new features, one of the main highlights of iPadOS 26 is a set of enhancements focused on bringing a more Mac-like experience to the iPad. Managing windows on the iPad has become much easier and more intuitive, as users can now resize and arrange apps on the screen the way they want.

You can still use your iPad like before, but Apple is also bringing some of the macOS controls to iPadOS via a control in the bottom right corner of the screen. You'll now be able to dynamically resize windows by dragging the corner as well as hover over windows to get new controls for closing, minimizing, or resizing windows. Apps can also display a menu bar at the top of the screen, just like on the Mac. Apple says this will make it easier to find specific commands within apps.

iPadOS 26 takes better advantage of Apple Silicon chips by enabling true multitasking in the background for apps that need to run more intensive processes. For



That's an iPad, not a Mac.

NEW APPS FOR THE iPAD

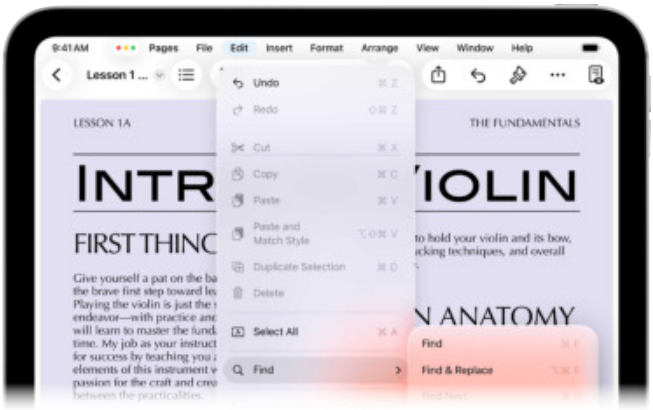
Apple is adding many new apps to the iPad with iPadOS 26. For instance, the Journal app finally arrives on iPad with support for handwriting and sketches with Apple Pencil, as well as photos, videos, audio clips, location data, and mood tracking.

example, video editing apps like Final Cut Pro can export a project even when they're running in the background.

On top of all this, iPad users can finally choose default apps to open specific file formats from the Files app, such as setting Photoshop to open PNG files. And the cursor is no longer a circle—it's now a very Mac-like arrow.

Want more from WWDC? Be sure to check out video coverage on YouTube, TikTok, and Instagram. And subscribe to Macworld's daily and weekly newsletters for Apple coverage from WWDC and beyond.

The update also introduces the new Apple Games app, which works as a hub for your game library, progress, and achievements. A new Game Overlay feature lets users access real-time updates, tweak settings, and invite friends



The iPad is getting powerful new interface tools for multitasking and productivity.

without leaving the game, a welcome upgrade for anyone who plays regularly on iPad.

IMPROVED APPLE INTELLIGENCE EXPERIENCE

A year after the announcement of Apple Intelligence, Apple is adding more AI-based features to the iPad's operating system. With iPadOS 26, users have access to Live Translation in FaceTime and Messages. When on a call, you can speak to someone else in another language, and both people will see translated captions. The translation can also be spoken aloud.

Genmoji are also being updated with iPadOS 26, now with the ability to start with an existing emoji and modify it the way you want. There are new options for customizing Genmoji of people with different hair, accessories, and expressions. At the same time, Apple is adding ChatGPT to the Image Playground, so there are now even more styling options available for creating images using AI.

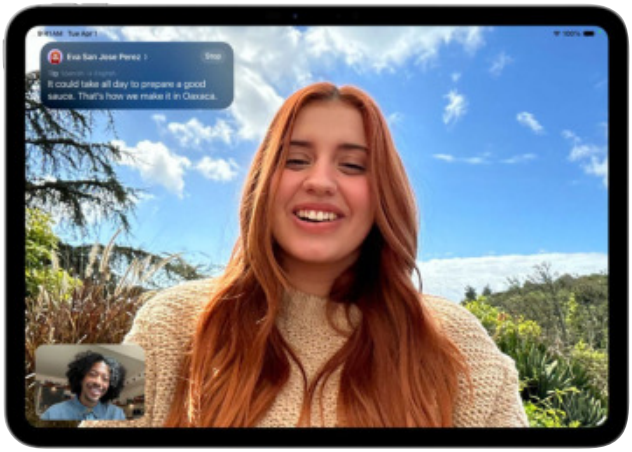
And in the Shortcuts app, users will find new intelligent actions that take advantage of AI models to do things like summarize text and generate images.

COMPATIBILITY

iPadOS 26 is compatible with the following iPad models:

- iPad 8 (A12 chip) and later
- iPad mini 5 (A12 chip) and later
- iPad Air 3 (A12 chip) and later
- iPad Pro 2018 (A12X chip) and later

That means just one iOS 18 model, the 7th-gen iPad, is losing support. Of course, some features may require the latest hardware. Apple Intelligence, for example, still requires the M1 chip or later.



With iPadOS 26, users have access to Live Translation in FaceTime and Messages.

AVAILABILITY

A beta version of iPadOS 26 is available to developers now. According to Apple, a public beta version will be available in July. The update is expected to be released to the public this fall. ■

Your Apple Watch just got a lot smarter with watchOS 26

Liquid Glass redesign means it looks different, too.

BY DAVID PRICE

At its Worldwide Developers Conference 2025 keynote (fave.co/4k9Nn1j) in June, Apple announced the latest watchOS update for the Apple Watch. The new software sees more Apple Intelligence elements than ever land on the watch, as well as a major aesthetic redesign. And yes, as expected (fave.co/44FXITI) Cupertino has switched from traditional version numbers (the previous update, watchOS 11, was the 11th yearly update) to ones based on the year when the software will primarily be in use. The new update, which will launch to the public in September and carry on until the next fall, is named watchOS 26 (for 2026).

IMAGE: APPLE

LIQUID GLASS: THE BIG REDESIGN

Earlier in the keynote, Apple announced a broad project called Liquid Glass (fave.co/3TV56ih), a sweeping cross-platform redesign affecting the interfaces of the iPhone, iPad, Mac, Apple TV...and Apple Watch. So the smallest screen in Cupertino's stable gets a new look at the same time as the larger and costlier products.

Liquid Glass takes its inspiration from Vision Pro and encompasses a range of visual and interactive changes. More user interface elements than before are translucent, with menus and buttons constructed as layers that refract and reflect the colors and shapes beneath. Furniture is rounded and dynamic, shrinking and expanding as you navigate through the interface. Specular highlights make everything look shiny.

The Apple Watch has less space to showcase this new design than the other affected products, but watchOS 26 still looks distinct from previous iterations. The numerals on watch faces have the signature glassy look, and in the Photos face, they adjust size dynamically to suit the available space in different photos. The translucent design also shows up in buttons within Apple's apps, as well as notifications, widgets in the Smart Stack, Control Center toggles and more.

Liquid Glass encompasses a range of visual and interactive changes.

In short, watchOS 26 looks stunning. But it also seems somewhat unfamiliar because so many elements have been redesigned, and this may mean it'll appear user-unfriendly at first. In time we should all get used to it.

WORKOUT BUDDY

We've complained in the past that the Apple Watch was left out of the Apple Intelligence party even though it seems the most suited to take advantage of the technology (fave.co/4esKHKX). The arrival of watchOS 26 doesn't give the watch the full Apple Intelligence experience, presumably due to a lack of processing power, but there are more AI elements than ever before.

This being a fitness-focused product, it's no surprise that Apple Intelligence is principally aimed in that direction. There's a new feature called

Apple Intelligence is used to power Live Translation in Messages on the Apple Watch.

Workout Buddy that analyzes your usage data and fitness metrics to create personalized insights and pep talks. Apple gives the following as an example of what Workout Buddy could offer:

"Way to get out for your run this Wednesday morning. You're 18 minutes away from closing your Exercise ring. So far this week, you've run 6 miles. You're going to add to that today."

That's your motivation ahead of a workout, but the feature offers contributions while you exercise, too. It will notify you of split times and milestones, such as the time for the last mile or the total number of miles run in the year so far: for example, "Mile four. You picked up the pace and ran that last one in 8 minutes and 28 seconds," and "Hey, check this out. Your total running distance for the year just crossed the 200-mile mark! That's a lot of running!" Then at the end the assistant recaps your stats (distance, time, average pace, heart rate) and offers congratulations for any milestones or personal bests.

All of these interruptions could be motivational or they could be annoying. A lot of people like to get in the zone when exercising and audio backdrop is a key part of that—silence, a favorite playlist, or even a podcast. But we're pretty sure the feature will be optional, and some exercisers will love it.

LIVE TRANSLATION IN MESSAGES

Talking of Apple Intelligence, this is also used to power Live Translation in Messages on the Apple Watch. When a text comes in and it's not in your native language, the system will translate right there on your watch; the response you enter in your own language will then be translated back to the original.

You do need to have an iPhone that supports Apple Intelligence for this, however, so presumably the work isn't actually happening on the watch.

SMART STACK

Apple says the Smart Stack watch face is getting smarter, too. It incorporates more data to power its predictive algorithms,

Smart Stacks incorporates more data to power its predictive algorithms.

sucking in information from sensors and your daily routine, and it has a new way to make hints about actions you might want to take. These will appear as what Apple describes as a "gentle visual prompt," popping up at the bottom of the screen and drawing the eye with its glassy, shiny appearance.

NEW WRIST FLICK GESTURE

This is a fun and potentially useful new feature: You can dismiss notifications and calls, as well as turning off timers and alarms, by flicking your wrist. It should make life easier when your watch tries to get your attention while you're in the middle of a workout or other activity.

WORKOUT APP

The all-important Workout app has been redesigned. It's very different, in fact, with new buttons in the corners of the screen to access customization options. As a regular Workout user, I have to say that it looks rather complicated and intimidating, but I trust it will become familiar in time, and likely it is a more powerful tool for setting up workouts the way I want them.

The all-important Workout app has been redesigned.

You can now set up music and podcasts from within the Workout app so that they start playing when you start exercising. Or, if you'd rather not have to give this any thought, you can have Apple Music select a playlist for you, based on your listening history and the workout type. Or you can view suggestions based on what you've listened to when doing the same workout in the past.

The public beta of watchOS 26 is rolling out in July. It's available for the Apple Watch Series 6 and later, the 2nd-generation Apple Watch SE, or any Apple Watch Ultra, the same models supported with watchOS 11. ■

Apple's iPhone apps are a waste of time. These 8 alternatives are way better

Want to think different when it comes to your iPhone's apps? There are plenty of brilliant options outside Apple's default apps. Here are our favorites.

BY ALEX BLAKE

The last few years have seen Apple open up its ecosystem more than any of us previously thought possible, and part of that means you can now change your iPhone's default apps with relative ease. For example, instead of being forced into Safari every time you tap a web link, you can have your device open a different browser instead.

This newfound choice has opened the door to a host of excellent third-party apps that are ready to step into the void left by Apple's default choices, should you wish

IMAGE: FOUNDRY

to change them—and in many cases, you should. Here, we've rounded up a few of our favorites. In some instances, you can change your default app choice to one of these options, in others you can't, but you can still use our picks to elevate your iPhone regardless. Here's how you can switch it all up.

DITCH: REMINDERS GET: THINGS

Apple's Reminders app has never really kept up with third-party alternatives, and even when it was overhauled at WWDC 2024, it still left us wanting more. But you don't have to settle for Apple's effort. Install Things (fave.co/4IcEpSy) instead.

This well-known app is a great example of what a to-do list app can be. It contains all the power-user tools you'd expect, like smart lists, ongoing projects with headings and completable subsections, a context-aware plus button for adding and moving tasks, supersmart and speedy search, and more.

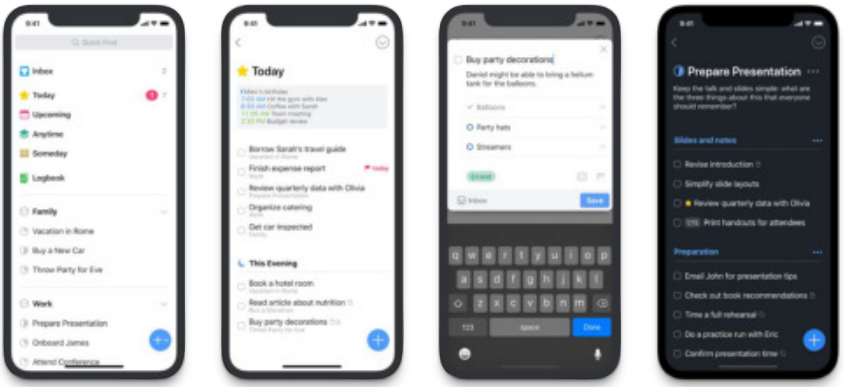
It's also beautifully designed, so much so that it puts even Apple to shame. With delightful interactions and an interface that *just works*, Things is enjoyable to use, no matter the complexity of your to-do list. Go get Things in the App Store (fave.co/46jNlk7).

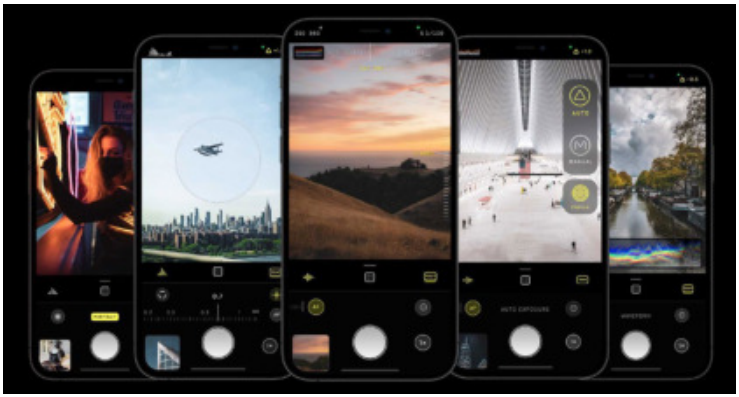
DITCH: CAMERA GET: HALIDE

Apple's Camera app works well enough, and it gives you a few controls for tweaking things like exposure, depth of field, and tone. But that might not be enough for seasoned photographers who want more options to shoot the way they want.

Enter Halide. This popular photography app comes with everything camera pros need to take their best shots. It lets you disable autofocus, analyze your images with color zebras and waveforms, disable

Things is beautifully designed and offers much more than Apple's Reminders.





Halide comes with everything camera pros need to take great shots.

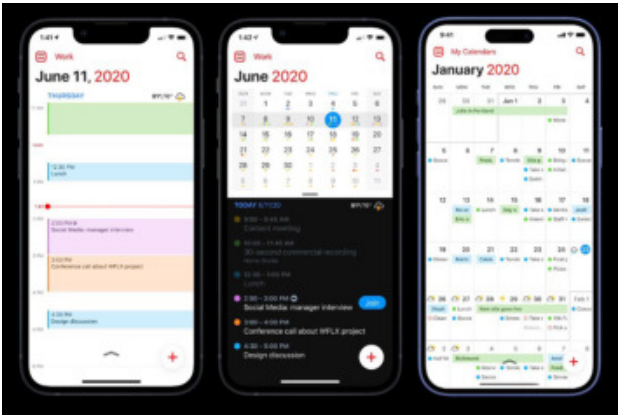
Apple's processing and shoot in raw format, and much more. It's built for people who want to get hands-on with their camera app, without Apple's interference.

Unfortunately, you can't change the camera app that's opened when you press your iPhone's Camera Control. What you can do, though, is change which camera app launches from your Lock Screen. To do so, tap and hold your Lock Screen, and then tap Customize ➔ Lock Screen. Tap the minus symbol next to one of the two icons in the bottom-left or bottom-right corner of your screen, tap the empty circle, and then pick Halide from the list of options and select Done in the top-right corner. Go get Halide in the App Store (fave.co/47NviBp).

DITCH: CALENDAR GET: FANTASTICAL

Forget Apple's Calendar app. You deserve something better for organizing your schedule. That something is Fantastical (fave.co/3G5guFj), and it's so good that it's hard to know where to start when detailing its advantages.

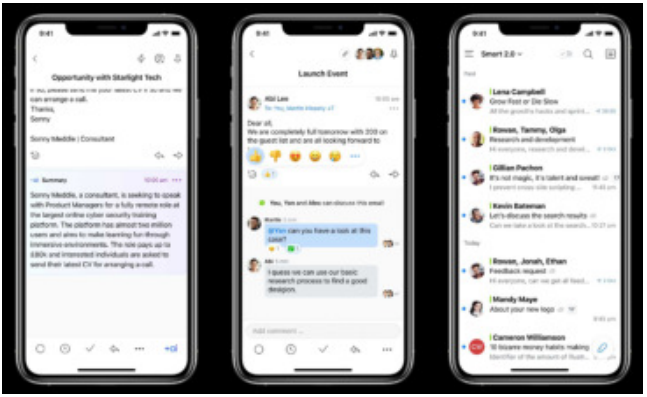
But we've got to start somewhere, so we'll begin with its beautiful layout, which is so polished that it's been bestowed with an Apple Design Award. With powerful views to choose from, you'll always have the information you



Fantasical is a longtime favorite calendar app.

need to hand, no matter which device you're using.

You can create templates from any event or task, and it bakes task management into your calendar so you always stay on top of your to-do list. With support for calls and meetings, files and attachments, accounts from leading calendar providers like iCloud, Google, Exchange and Outlook, plus strong privacy controls, there's a huge amount to like about it.



Spark uses AI to fix grammar, rephrase content, and more.

It works on almost every Apple device, with versions for your iPhone, iPad, Mac, Apple Watch, iMessage, and even the Vision Pro. It's also compatible with Windows, so you won't miss out if you combine an iPhone with a Windows PC, for example. Go get Fantastical in the App Store (fave.co/4kk0g9c).

DITCH: MAIL GET: SPARK

For many years, Apple's Mail app felt stuck in the past as competitors raced ahead. Mail got a spruce-up at Worldwide Developers Conference 2024 with the introduction of Apple Intelligence, but we wouldn't say it's managed to close the gap entirely.

One of the apps that's surged past Mail is Spark (fave.co/45OXMvY), which aims to give you more control over your inbox so that you rule your emails, not the other way around. For example, only senders you've approved will get their messages into your inbox. High-priority mail floats to the top, while newsletters and notifications sit below, so you can dive straight into your important work without having to fight your way through the everything else.

It also leverages AI to help you get things done faster. That means you get an assistant that fixes grammar and spelling mistakes and can help rephrase your emails with a different tone of voice. And there's much more, from scheduled messages and cloud storage for large files to thread muting and support for encrypted mail.

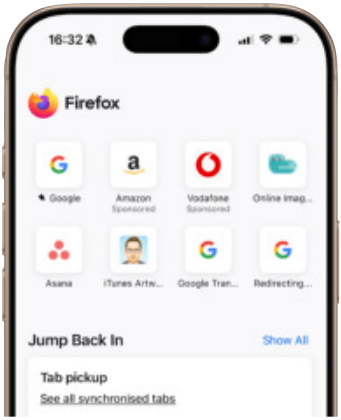
To change your default email app, open the Settings app and go to Apps ➔ Default Apps ➔ Email, then pick Spark

from the list. That's all there is to it. Go get Spark on the App Store (fave.co/44wldH5).

DITCH: SAFARI GET: FIREFOX

Sick of Safari? Apple's web browser isn't for everyone, and you might find yourself looking outside the company's walled garden for a fresh browsing experience. Chrome may be the obvious pick, and it's certainly an excellent browser, but it's raised concerns over some of its privacy practices. If that's a worry for you—or you just want to try something different—Firefox (fave.co/3GfuvjM) is an excellent choice.

As an unashamed Firefox stan, I recommend this browser to anyone within earshot. It comes with privacy built-in, including defenses against trackers and scripts, crypto miners, fingerprinters, and more. It'll put a stop to cross-site trackers following you across the web, and it halts social media data collection in its tracks.



Firefox offers built-in privacy features that protect your data.

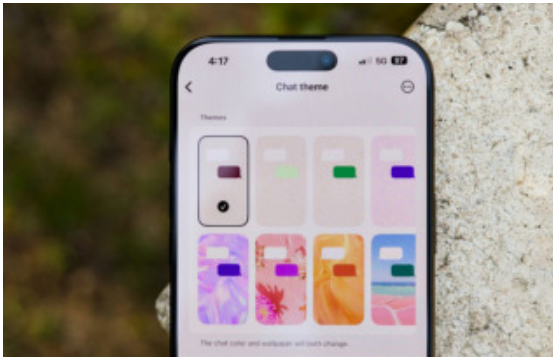
Unlike Safari, Firefox works across almost every platform, so you can easily share links and webpages with your other devices, whether that's an Apple product, an Android tablet, a Windows PC, or something else. And it's lightning fast, neatly organized, and feature rich.

If you want to change your default web browser, open the Settings app on your iPhone and head to Apps ➔ Default Apps ➔ Browser App. You can then choose Firefox from the list. Go get Firefox on the App Store (fave.co/3ZW5AIJ).

DITCH: MESSAGES GET: WHATSAPP

Put an end to the blue bubble, green bubble debate once and for all by dumping Messages and using WhatsApp (fave.co/3IILTDT) instead. This cross-platform app doesn't care whether you're typing on an iPhone, an Android device, or a potato—no one misses out on its features. It also packs in voice messages, stickers and emojis, GIFs, and more. And it lets you chat directly with businesses and customer support agents, too.

But WhatsApp is much more than just a messaging app. It can also handle calls, whether you prefer to conduct them over audio or video. That extends to group video calls, too, making it easy to catch up with friends and family no matter where they are.



WhatsApp supports different themes to give the app more personality than Messages.

WhatsApp might be owned by Meta—not exactly known for its privacy chops—but the good news is that every message you send and receive in WhatsApp is protected by end-to-end encryption, so no one can read your texts without your permission (not even WhatsApp itself).

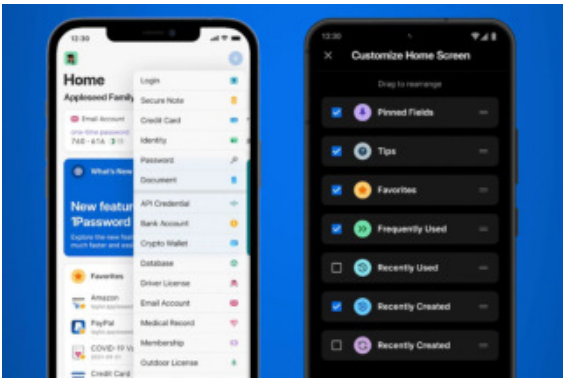
To make it your default, go to Apps ➔ Default Apps in the Settings app. There, you can set WhatsApp as your choice in both the Messaging and Calling sections, if you like. Go get WhatsApp on the App Store (fave.co/3nJscHU).

DITCH: PASSWORDS GET: 1PASSWORD

At WWDC 2024, Apple introduced its own password manager, the (rather plainly) named Passwords. That's great news if you want a free password manager on your Apple devices, and it's got plenty to offer. But we've found it's not quite up to scratch compared to other offerings, at least not yet. If you agree, your best bet is to try 1Password instead.

This brilliant password manager is all you need to keep all your important info safe. It can autofill login information on sites you've created an account with or suggest rock-solid passwords for those you're just registering with. If any of your logins have been leaked online, it'll alert you so you can update your passwords, and it can also analyze your existing logins to find weak and repeated passwords.

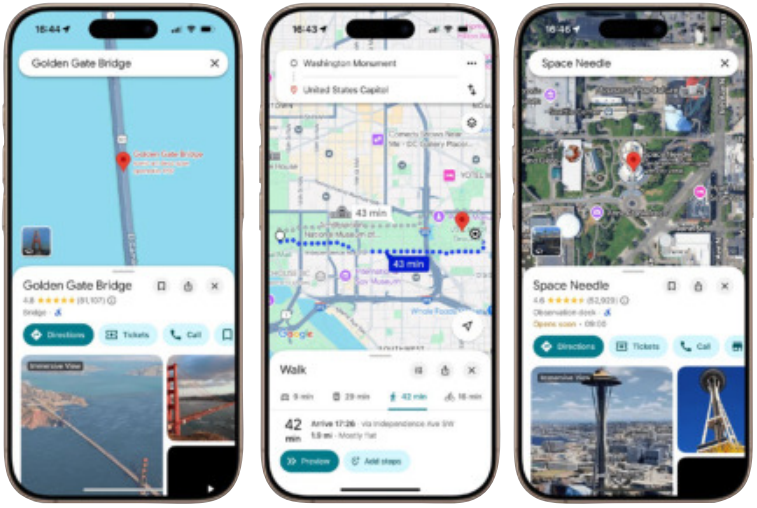
It extends beyond just passwords, though. You can save passport details, credit card info, cryptocurrency wallets,



1Password is cross-platform, so you can access your passwords on any platform.

drivers' licenses, secure notes, and more. It can also be enlisted to enter one-time passcodes, so you don't need to rely on having these codes sent to your inbox or to a different authenticator app.

To make 1Password your default, open the Settings app and navigate to Apps ➔ Default Apps ➔ Passwords & Codes. You'll also want to go to General ➔ AutoFill & Passwords in the Settings app and enable the toggle next to 1Passsword, then pick 1Password next to Set Up Codes In. Go get 1Password on the App Store (fave.co/4labbDM).



Google Maps has a wealth of features you'll find handy when traveling.

DITCH: APPLE MAPS GET: GOOGLE MAPS

Apple Maps has come a long way since its troubled launch in 2012, and these days it's easily one of the best mapping apps you can get. But that doesn't mean you should use it. If you want to look elsewhere, Google Maps is a great option.

Its simple and clear interface gets out of your way and lets you concentrate on the route, while its accurate directions ensure you're never lost with it by your side. Real-time traffic alerts can help you steer clear of trouble, and its CarPlay integration works beautifully with your vehicle. It offers different overlays for clearer views, plus there's Google Street View if you want to view a location from ground level. It can even show augmented reality directions overlaid on your camera with its Lens feature.

And it's chock-full of listings for local businesses, restaurants, attractions, and more, and each of these listings offers reviews posted by real users, helping you pick your next destination and filter out the noise. Go get Google Maps on the App Store (fave.co/4erJzax). ■

Apple Arcade is the best Apple service you're not using

If you like to play games on your iPhone or iPad, Apple Arcade is worth the money—and your time.

BY JASON CROSS

I know what you're thinking...I'm not going to spend *eight bucks a month* on a subscription gaming service just full of mobile games! That's half the price of Xbox Game Pass or PlayStation Plus Extra where I have access to hundreds of *real* games!

But if you spend a fair amount of time playing games on your iPhone or iPad—even if your "real" gaming time is on a PC or console—you should probably give Apple Arcade (fave.co/4IcR08i) a shot. It has grown into a big service with an impressive catalog, and perhaps most importantly, it breaks the economic engine that ruins mobile game design.

PLENTY TO CHOOSE FROM

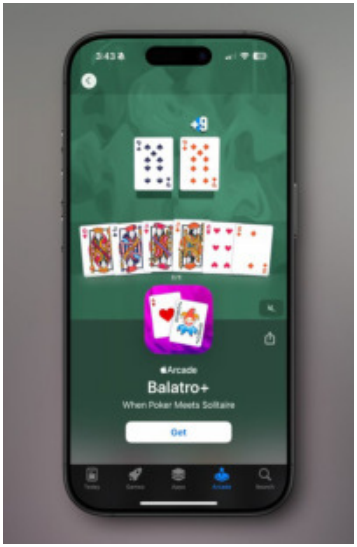
Just to be clear: The caliber of games on Apple Arcade is decidedly mobile. You're

IMAGE: APPLE

not going to find a lot of stuff that would compete with your home console or high-end gaming PC. And if you're looking to play those kinds of games on your Mac, you'd probably get more out of a streaming gaming service.

But there are lots of top-tier games on Apple Arcade now that would be worth every penny if you bought them on the App Store. Sure, you get mobile classics like *Cut the Rope 3*, *Fruit Ninja*, *Bloons TD*, *Threes!*, or *Crossy Road*. But did you know it's also full of bona fide indie hits like *Slay the Spire* (fave.co/3GtnJqu), *Stardew Valley* (fave.co/3I444xX), *Return to Monkey Island* (fave.co/3ZUCY2p), *Dead Cells* (fave.co/4lwzYBt), *Vampire Survivors* (fave.co/3Te9AR3), and a handful of great *Final Fantasy* pixel remasters?

There are some original greats, such as *Grindstone* (fave.co/40jGrIb) or *Sneaky Sasquach* (fave.co/3GfoovO), but original titles alone definitely weren't enough of a draw. So in 2021, Apple changed the rules: Apple Arcade wouldn't only be for new exclusive titles, but would also include games that already appear in the App Store. These "plus" games (so called because they have a plus sign [+] at the end of the title to distinguish them from the normal App Store version) have been a huge boon to Apple Arcade over the last few years. Most of the best titles are "plus" games, and there's finally enough to really justify the price.



Hot indie games like Balatro add tremendous value to Apple Arcade.

NO ADS OR IN-APP PURCHASES

Fundamental to Apple Arcade is that every game downloads and plays locally—there's no streaming (though some games have online features), and crucially, there are never any ads or in-app purchases. That's a big deal for parents, who don't want their young kids to see ads with content they don't approve of, or to bother with purchase requests for gems or boosts or whatever. But it's really a big deal for *everyone*. Ads and in-app purchases are not just annoying—they warp game design into something that encourages compulsive play that isn't much fun.

If a game developer is going to give their game away (or charge just a buck or two), they're either going to have to make that money back by selling in-game currency, boosts, and unlocks (which cost next to nothing to make, of course, so it's pure profit), or make you watch occasional unskippable ads. Often it's both.

But the games also need to be designed differently to make these in-app upgrades seem appealing. They have to slowly and increasingly stunt your progress until you buy a boost, gems, energy, whatever. And then later, buy it again, and again, and again. Or they have to artificially extend the time you play so you see more ads.

Instead of thinking about how your interactions in the game can be more fun or interesting, game design decisions are being made based on how they can make you *pay*, with either your money or your attention.

The result is an epidemic of games that drip-feed you useless rewards just enough to make you want that next dopamine hit. The gameplay is *compelling* but it's not *fun*.

Apple Arcade's Grindstone is a perfect example of how the total lack of ads or IAPs fixes this broken system. It is exactly the kind of game that could easily be made to fit the freemium mold, but it's so much more fun precisely because your progress is a reward for good play.

HEAD OVER TO THE ARCADE

If you haven't checked out Apple Arcade in years, it's time to give it another shot, especially if you play a lot of mobile games. Even if you don't spend any real money on in-app purchases, trust me, you're paying a price by playing App Store games. Go take Apple Arcade for a spin and you'll be amazed at how different the mobile game experience feels.

Can you imagine Dead Cells with in-app purchases? Ew.

Between the growing library of hit games, support for Xbox and PlayStation game controllers, and the superior game design that follows from having no ads or IAPs, you might be surprised how much time you spend in the Arcade. ■

The full-screen no-notch iPhone might not happen for five years

Report claims Apple is eyeing 2030 for under-display Face ID and selfie cam.

BY ROMAN LOYOLA

To notch or not to notch? That seems to be the question for the next few iPhone releases. But according to a new report, we might be waiting a while for a notchless iPhone, as Apple's plans for an under-display front-facing camera and Face ID won't happen until 2030.

According to display supply chain consultant CEO Ross Young, Apple will move gradually toward a notchless display. Next year, the Dynamic Island will

IMAGE: FOUNDRY

Next year, the Dynamic Island will reportedly shrink a little as Apple reconfigures how Face ID is implemented.

reportedly shrink a little as Apple reconfigures how Face ID is implemented. Then, he says, in 2028, the Face ID sensors will be completely under the display panel, with a hole for the selfie camera (probably centered, like many Android phones), before finally, in 2030, we get the first iPhone without any holes or notches as the selfie camera moves underneath the display.

If Young's timeline holds up, that means the 20th-anniversary iPhone in 2027 won't feature a notchless display. That runs counter to a report by Bloomberg's Mark Gurman (fave.co/3l4YcEG), who said the 20th-anniversary iPhone is called "Glasswing" inside Apple. He added: "There will be extraordinarily slim bezels and no cutout section in the screen." However, in his "Power On" newsletter this week, Gurman reported that Apple next year "will shrink the Dynamic Island, moving closer to a screen that truly covers the entire front of the phone."

Reports have stated that Apple has big plans for a folding phone in 2026 (fave.co/4l8Wvoo) and a commemorative 20th-anniversary iPhone (fave.co/3G5wMOt) a year later with hardware that embraces the Liquid Glass user interface language with curved glass edges. For this year's release, Apple is rumored to be releasing a super-thin model (fave.co/46xdoCH) that's been dubbed the iPhone 17 Air. ■

Reports suggest Apple will release a folding iPhone in 2026.

AM I OKAY TO DRIVE?

BUZZED DRIVING IS DRUNK DRIVING

NHTSA

ad COUNCIL

We can do this.
Breathe.

Love,
Your Mind

P.S. Find mental health resources
LoveYourMindToday.org

HUNTSMAN MENTAL HEALTH INSTITUTE

ad COUNCIL

IPHONE CAMERA MOUNT

INSTA360 FLOW 2 PRO: GIMBAL MAKES IT EASIER TO SHOOT SOCIAL MEDIA VIDEOS

BY THOMAS BERGBOLD

Macworld EDITORS' CHOICE

A gimbal is a motorized stabilization mount for cameras that compensates for vibrations and enables smooth video recordings. It uses motors and algorithms on three axes (tilt, pan, roll) to correct unwanted movements. Gimbals are used in professional video production and by iPhone filmmakers to stabilize shots and enable creative camera movements.

For iPhone filmmakers who are also vloggers, however, a gimbal must be able to do even more. And so Insta360 has packed features into the revised Flow 2 Pro ideal for the iPhone, offering versatile

IMAGE: INSTA360

The Flow 2 Pro comes with an integrated selfie stick.

tracking via Apple DockKit in over 200 iOS apps, including apps for streaming and videoconferencing.

The Flow 2 Pro offers everything mobile filmmakers need: an integrated selfie stick, an extendable tripod, and a practical selfie mirror. The Insta360 app also includes exciting features such as 360-degree panorama, dolly zoom, motion time lapse, time shift, and even a teleprompter for vlogging. The Flow 2 Pro follows every movement in 360 degrees and can be operated remotely using gesture control, Apple Watch or even a second iPhone. And best of all, when folded up, it fits easily into a jacket or trouser pocket.

When folded, the dimensions are still compact at 97.9 by 178.4 by 36.7 millimeters. When unfolded, the dimensions are 121.1 by 282.1 by 54 mm. The weight is low at 357 grams. The built-in battery has a capacity of 1,100 mAh, which should be enough for a maximum runtime of 10 hours. This almost worked for us in the test. With a charging time of just two hours, it also recharged relatively quickly. Thanks to the USB-C connection, the gimbal's built-in battery can be used as a power bank for the iPhone.

When folded up, this is a compact device.

The gimbal's built-in battery can be used as a power bank for the iPhone.

LOTS OF FUN IN PRACTICE

Pack up and go is an exercise the Flow 2 Pro masters well. It takes a bit of trial and error to get it to lock into position and switch off straight away. But then it is a compact package that takes up roughly the same space as the iPhone Pro Max. The Flow 2 Pro comes with a fabric bag for transport, which also holds accessories such as the iPhone holder and the LED light.

The Flow 2 Pro is quickly ready for use and fascinates with its range of functions. The Flow 2 Pro can also be controlled sensitively with the joystick. Rotating the iPhone from portrait to landscape format is easily achieved with the thumb, as is switching between the front and rear camera. The infinitely variable zoom using the rotating ring through all iPhone lenses offers great creative freedom and enables smooth transitions.

It compensates for walking and climbing stairs very smoothly, as well as panning. The AI functions are the icing on the cake. First and foremost is the tracking: Press the front button, and the Flow 2 Pro automatically recognizes faces in many apps that use the camera. Further tracking is not limited to faces, which it recognizes automatically, but the selection is made by simply dragging a selection frame. This even works if the object is briefly obscured, which makes the 360-degree photo function seem almost mundane because it works so perfectly.

The Flow 2 Pro is quickly ready for use and fascinates with its range of functions.

Insta360's Flow 2 Pro shines with its intuitive controls.

One AI function should not be forgotten: remote control via gestures, as known from action cams, or control via the app on the Apple Watch. Although the image on the Apple Watch is somewhat delayed, it still works well. What is always fiddly is pulling out the selfie stick and the tripod legs. The Flow 2 Pro also feels much better in the hand than its predecessor, the Flow Pro.

Accessories include a short USB-C charging cable for the iPhone, a magnetic smartphone holder, the Spotlight LED light, a backpack holder, and a sturdy carrying case.

VERDICT

The gimbal does its job impressively well and provides excellent stabilization even when walking, climbing stairs, or panning the camera. However, the real highlight is the tracking functions. Thanks to Apple DockKit, the Flow 2 Pro enables precise automatic tracking, while objects can also be marked manually. Even if interfering objects get into the picture, the tracked subject remains in focus. This makes the gimbal perfect not only for vlogging, but also for sports and action videos, or even videoconferences.

A product is only really complete when the details are convincing. And this is exactly where the Flow 2 Pro shines in the truest sense of the word with its selfie mirror and intuitive, one-handed controls. Well-thought-out extras such as the USB-C ports for powering the iPhone and the optional additional light make the gimbal even more versatile.

The support of other apps thanks to Apple DockKit is no small matter. For example, the professional camera app Blackmagic Cam from Blackmagic can be used seamlessly with the Flow 2 Pro—a real plus for discerning filmmakers. ■

Insta360 Flow 2 Pro

PROS

- Effective stabilization.
- People tracking with other apps.
- Compact dimensions.

CONS

- Tripod legs are not very robust.

PRICE

$136/£145

COMPANY

InstaFlow

CHARGING STAND

HYPERJUICE QI2 3-IN-1 AND 2-IN-1 MAGNETIC CHARGING STAND: CUTE, SMART, AND POWERFUL

BY SIMON JARY

Macworld EDITORS' CHOICE

There are plenty of 3-in-1 magnetic chargers that cater to all your Apple portable device needs, charging iPhone, AirPods, and Apple Watch.

Indeed, we've reviewed and tested the best 3-in-1 Apple chargers (fave.co/4lasyEv). Some are stands that sit on your desk or nightstand, while others fold up to fit in your pocket. The HyperJuice Qi2 3-in-1 Magnetic Charging Stand sits somewhere in between.

It has a smaller sibling, predictably called the Qi2 2-in-1 Magnetic Charging Stand. This is much more pocketable, but still offers fast charging when connected

IMAGE: HYPERJUICE

The charging stand is small enough to be portable.

to a USB-C charger. It can charge those same three Apple products, but not all of them simultaneously.

DESIGN

It's small enough to be portable but not so svelte that it will slip into your pant pocket or purse. It weighs very little (9.6oz, 272g) and is a tight little shape measuring just 2.8×2.8×3.1 inches (7×7×8cm). You won't notice it in your backpack or suitcase, although I'd want to safeguard its good looks in a pouch or some other protection.

It's cute and cleverly designed. The top 15W Qi2 wireless iPhone charger can be kept flat for charging or lifted to act like an adjustable—if low—stand. Qi2 is becoming the fast and affordable magnetic wireless charging standard that is just as fast as Apple's certified MagSafe, with which it is fully compatible. When lifted, a pull-up Apple Watch charger is revealed that lays out flat on the right side. This is Apple certified to fast-charge the Watch at 5W. Underneath is the 5W Qi wireless-charging base for an AirPods case.

It's priced the same as the equally modern-looking Journey Nova 3-in-1 Wireless Charging Station (fave.co/3I5ajBI), but that is a much larger statement charger.

WIRELESS ALL ROUNDER

All three Apple devices can be charged at the same time—and all wirelessly.

You'll need to add your own USB-C charger—with at least 30W capacity—to

The stand is handsome enough to look sharp in a modern home or work environment.

connect the Hyper Charging Stand to a power source.

2-IN-1 IN YOUR POCKET

Hyper also makes a 2-in-1 version that can charge an iPhone and Watch at the same time, but don't worry if you own AirPods as you can balance the earbuds' case on the phone-charging pad instead when you need to.

What makes the Hyperjuice 2-in-1 Magnetic Charging Stand special is its highly pocketable shape and size. The round charger weighs just 3.5oz (100g) and folds up into a 2.4×2.4×0.8 inch (6.2×6.2×2.1cm) disc.

You are more likely to lose the charger in your bag than notice its presence when carrying it. Remember, though, that you still need to connect it to a wall charger for it to work, as it's not a magnetic power bank (fave.co/3ulZ4y2).

A metal leg pulls out of the back of the 2-in-1 to create a robust stand. With the Watch-charging pad tucked away, you can flip it 180 degrees for an even sturdier stand base..

15W Qui2 for iPhone charging and 5W Watch power means that you get the fastest wireless charging available.

A metal leg pulls out of the back of the 2-in-1 to create a robust stand.

We have tested the best 2-in-1 Apple chargers (fave.co/4kdT4LF).

VERDICT

The HyperJuice Qi2 3-in-1 Magnetic Charging Stand is priced at $119.99 (fave.co/3l1h6fP)/£119.99 (fave.co/4lqsP5M). The 2-in-1 is a little cheaper at $99.99 (fave.co/ 3GcUSa1)/£99.99 (fave.co/4lC2rGl).

Neither is a throwaway price, but the 3-in-1 is a compact, good-looking multi-device charger that looks sharp in a modern home or work environment. The 2-in-1 is a really cute and clever charger. Each works both at home or on your travels and incorporates all the fastest wireless charging speeds. ■

HyperJuice Qi2 3-in-1 and 2-in-1 Magnetic Charging Stand

PROS

- 2-in-1 or 3-in-1 charging.
- Fast 15W for iPhone.
- Fast 5W for Watch and AirPods.

CONS

- Requires USB-C wall charger.

PRICE

$119 / £119

COMPANY

HyperJuice

SECURITY CAMERA

AQARA CAMERA HUB G5 PRO: SECURITY CAMERA THAT WORKS WITH APPLE HOME

BY CLIFF JOSEPH

Macworld EDITORS' CHOICE

In recent years, Aqara has been one of the few manufacturers of security cameras that still supports HomeKit for Apple devices—even when Apple itself seems to have dropped the term "HomeKit" and now tends to just say that a camera "works with Apple Home" (referring to the Home app on your Apple devices).

The G3 and E1 cameras we've reviewed from Aqara (in our roundup of the Best Security Cameras, fave.co/4lifgFK) are very competitively priced, but they're both designed for indoor use, so the company has extended its range with the

IMAGE: AQARA

new Camera Hub G5 Pro (fave.co/4IAPmgv), which boasts a sturdy design that is very much intended for life outdoors.

There are actually two versions of the G5 Pro available, and they also give you a choice of colors, with either plain white or a dark gray that looks very similar to Apple's Space Gray. We tested the standard Wi-Fi version of the camera, which uses a USB-C cable for its power supply and costs $179.99/£179.99.

The USB-C cable included is 2m long, so that should allow you to place it on a window sill or on a wall without too much trouble. The camera stand is adjustable, allowing you to tilt and swivel the camera as required, and there's a wall-mounting kit included in the box as well. However, Aqara only provides the USB-C cable for charging, with no mains power adapter included, so you'll have to provide that for yourself.

If you want to move the camera further away—or perhaps higher up on a wall so that it overlooks a car parking space—then you might want to opt for the more expensive PoE version (power over Ethernet). This costs $199.99/£199.99 and uses an Ethernet connection to provide both power supply and a wired network connection.

Both models are identical and are larger than previous Aqara cameras, as the G5 Pro houses the main camera sensor, along with a PIR sensor (passive infrared) that provides night vision, and an adjustable spotlight that you can activate to scare off intruders.

There's also a built-in speaker and microphone, which provide two-way audio as well. And as it's designed for outdoor use, the G5 Pro has a sturdy IP65 rating for resistance to water and dust, and Aqara states that it can cope with temperatures as low as -50f/-30C.

Getting started is very easy, thanks to the Aqara Home app for iOS/Android—although things do get a little more complicated. When you connect the G5 Pro to a power supply, the camera's speaker announces it is ready to go into pairing mode, and the app uses Bluetooth to connect to the camera and set everything up.

The G5 Pro has an IP65 rating for resistance to water and dust.

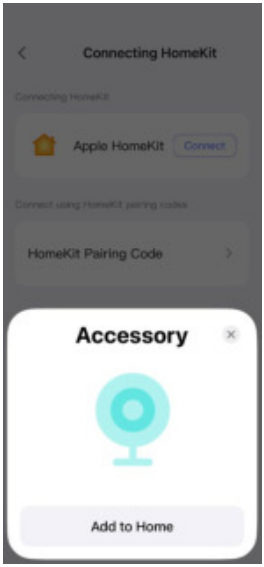
If you turn your device into landscape mode, the video image expands to full-screen size.

The camera supports dual-band Wi-Fi using the 2.4GHz and 5.0GHz frequency bands, and the app prompts you to select your preferred network and enter the Wi-Fi password. If you hold your mobile device upright, the Aqara app displays a small preview of the live video from the camera at the top of the screen, with a rather daunting selection of additional controls and settings below. If you turn your device into landscape (wide) mode, then the video image expands to full-screen size to give you a better view.

The camera has Quad-HD (2688×1520) resolution, which provides a clear, sharp image with a viewing angle of 133 degrees. There's a little fish-eye distortion around the edges of the image, but that doesn't affect visibility very much at all, and it's good to have such a wide field of view to keep an eye on things. The camera's infrared sensor works well too, providing good visibility even in darker conditions.

To be honest, we found the Aqara app rather complicated after the initial setup process, as it spreads a wide range of camera controls and settings across a long series of menus and submenus (and Aqara told us it doesn't provide a manual for the app).

Thankfully, Aqara's HomeKit support provides a more straightforward way of controlling the camera, and it only took a few quick taps to connect the G5 Pro to the Apple Home app on my iPhone and



Aqara's HomeKit support provides a more straightforward way of controlling the camera.

other Apple devices.

The Apple Home app offers a simplified set of controls that let you record or stream live video whenever you leave or arrive home. It even offers to download firmware updates for the camera via Apple home too, so full marks go to Aqara for making the HomeKit integration so smooth.

HomeKit integration comes in useful elsewhere too. Our review camera had 8GB of memory that allows it to store video directly on the camera, and the Aqara app also allows you to connect the G5 Pro to a NAS drive (fave.co/4fvVbIG) for storing your recordings on your home or office network.

Aqara also offers a subscription service called HomeGuardian that provides online storage and other features, costing $4.99 per month or $49.99 per year for a single camera, or $9.99 per month or $99.99 per year for an unlimited number of cameras.

Of course, Apple's own iCloud+ subscription service includes a feature called HomeKit Secure Video that allows you to store video from HomeKit-compatible security cameras, starting at just $0.99/£0.99 per month for a single camera (see iCloud+ pricing, fave.co/3CWDiI7).

If you need a sturdy outdoor camera, Aqara's Camera Hub G5 Pro is hard to beat.

VERDICT

If you need a sturdy outdoor camera that works well with Apple devices, the Camera Hub G5 Pro is hard to beat. Its camera provides good image quality even in low light conditions, and the built-in memory allows you to record and store video straight out of the box. Aqara's app isn't the most elegant piece of software we've ever seen, but the camera's support for HomeKit and Matter allows you to easily control the camera using the Apple Home app, as well as providing a low-cost option for cloud storage. ■

Aqara Camera Hub G5 Pro

PROS

- High-quality QHD camera.
- Good night vision.
- Adjustable spotlight.

CONS

- Aqara app is too complicated.
- You have to provide your own power adapter.
- Cloud storage requires a subscription.

PRICE

$179/£179

COMPANY

Aqara

iOS 26

9:41
G.A.L.A.
OK awesome, let's move forward with that plan. Talk tomorrow!
Alejandra Delgado
One week!
Alejandra Delgado
We got this
Tania Castillo
Let's discuss in 20!
iMessage
9:41 Tue Apr 1
Cinderella
Model/Actriz
3:03
Tue Apr 1
9:41
Elena Lanot
CB's 45th
Shred Heads
Trev Smith

6 MAKES MASSIVE CHANGES TO YOUR iPHONE'S HOME SCREEN AND MAJOR APPS

WITH A DRAMATIC NEW DESIGN AND BIG UPDATES TO THE MOST-USED APPS, THIS WILL FEEL LIKE A BIGGER CHANGE THAN PREVIOUS iOS UPDATES. **BY JASON CROSS**

IMAGE: APPLE

When you update to iOS 26 this fall, your iPhone is going to feel dramatically different. There are always lots of new features in each major yearly release, but few are as in-your-face as those this year. There's an all-new design and dramatic changes to some of the apps you use most, including Phone, Camera, Messages, and Safari. Here are the biggest changes coming to iOS this year.

JUMPING UP TO 26

Apple is changing its naming scheme from sequential version numbers (which were all over the place, with different devices having different version numbers) to a year-based system. The OS versions that will carry Apple through 2026 will all be version 26. So you'll have iOS 26 (fave.co/44uVU9u), macOS 26 (fave.co/ 40tNQ7w), iPadOS 26 (fave.co/4lppRP4), watchOS 26 (fave.co/4lwe5Co), visionOS 26, tvOS 26, and so on.

So don't be confused—on your iPhone, 26 comes right after 18!

VIDEO: **WWDC25: ALL THE ANNOUNCEMENTS**
Watch now at fave.co/4lCqNQj

LIQUID GLASS

Apple's bringing an all-new design to iOS and all its other operating systems. The featured element is something it calls Liquid Glass (fave.co/3TV56ih), which

Tue Apr 1
9:41
San Francisco
53°
Floral Arrangement Workshop
Natural Beauty: The Art of Simple Arrangement
Break the golden rules of floral design to create something unexpected and uniquely beautiful. Led by seasoned florist Wei Xia, this workshop shows you how to branch out in search of simple, beautiful combinations where less is more. Let the flowers be your guide.
→ Materials provided
→ No experience necessary
→ Keep your creations

Liquid Glass does a lot more than change the look of your icons.

The Camera app gets a new simplified interface.

means interface elements look almost like glass—transparent, 3D, reacting to light and your touch.

This affects icons and widgets, which now have a new transparent option in addition to light, dark, and tinted modes. But it's also a big change to how interfaces work. Groups of controls no longer occupy a rectangular bar at the bottom of the screen, but are stuffed into floating elements that pop out additional controls, change as you move between views, and tuck away when you scroll.

This new look will be found in Apple's major apps and across devices from the Apple TV to the Mac and the Apple Watch.

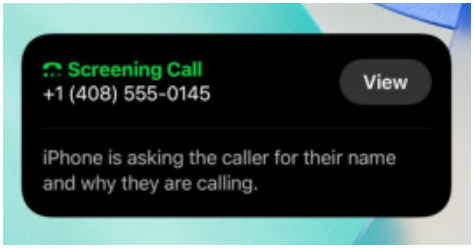
Your wallpapers will get new dynamic powers, too. On the Lock Screen, for example, the time grows and shrinks automatically to fill available space on your photos, and your photos slide up as notifications come in.

BIG APP UPDATES

There are always updates to apps in the big iOS update, but it's rare to see so many of the most-used apps changing so dramatically. Here are some of the updates you'll see this fall:

Camera: The Camera app gets a new simplified interface that emphasizes just

Your wallpapers will get new dynamic powers, too.



A new Call Screening option will answer calls silently in the background and let someone describe why they're calling.

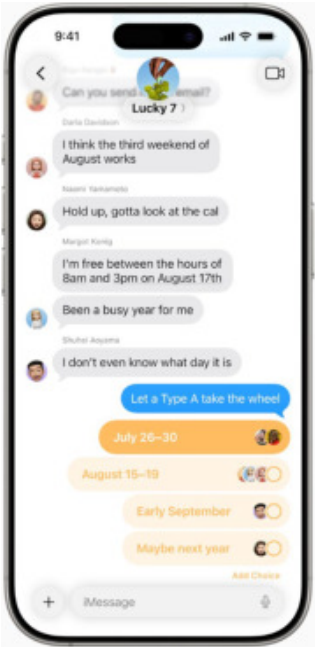
Photos and Videos and gets most of the other elements out of the way. Swipe to the side to show other modes such as Panoramic or Slow-mo, swipe up to show all your other photo controls, or access all your format settings at the top of the screen.

And the **Photos** app is sure to please those who hate the changes from iOS 18, because it now has two separate views: one for your library and one for collections, so you can kinda go back to the way it was before.

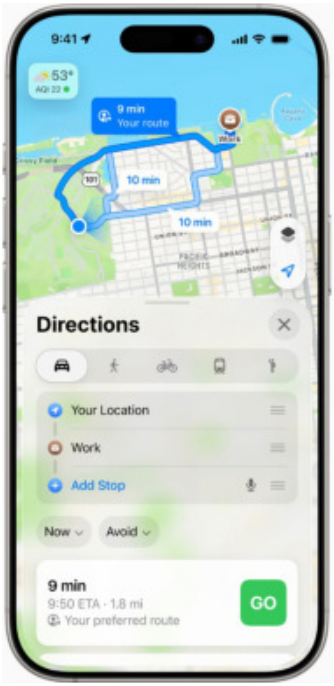
Phone: The main screen pins your favorite contacts at the top, and then shows recent calls and voicemails in a single chronological list below. Apple Intelligence summarizes voicemails, too. If you need your contacts or keypad, you'll find them in little "Liquid Glass" fly-out menus at the bottom of the screen. Apple says the new view will be optional, so if you like the old way, you can keep it.

But Apple is doing more with AI to address pain points with your phone. A new Call Screening option will answer calls silently in the background and let someone describe why they're calling. Then you can see the text of what they said on your screen and decide whether to pick up. Hold Assist is another helpful option. It automatically detects hold music and can mute the call, allowing you to use your iPhone for other things or work on something else without hanging up. Then, when the live agent connects, you'll get a notification that it's time to pick up.

Messages: There's a new polls feature that's sure to be popular. You can add a


9:41
Lucky 7
I think the third weekend of August works
Hold up, gotta look at the cal
I'm free between the hours of 8am and 3pm on August 17th
Been a busy year for me
I don't even know what day it is
Let a Type A take the wheel
July 26–30
August 15–19
Early September
Maybe next year
iMessage

You can add a poll to iMessage group chats and watch people vote in real time.

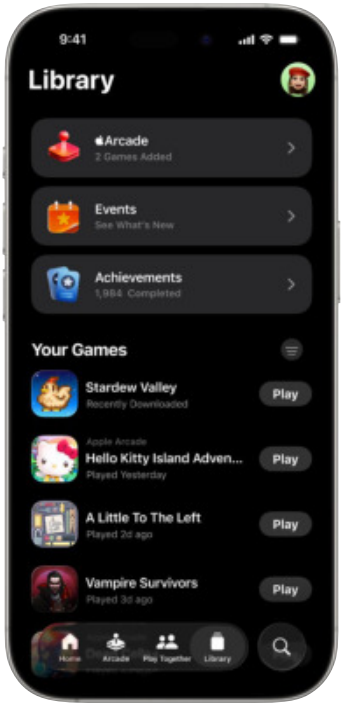


New AI tools in Maps will recognize your preferred routes.

poll to iMessage group chats and watch people vote in real time, and AI will suggest polls when you ask a question that requires multiple responses. Message threads can now have persistent backgrounds (there are new dynamic backgrounds, or you can choose your own image). When you get a text from an unknown sender, it now goes into a separate list you access through one of the Liquid Glass menus tucked away in the corner. They come in silently until you decide if that sender is legit or spam. But Apple will use AI to make sure you don't miss important information such as one-time authentication codes or texts from a restaurant or other waitlist.

Apple Music: You can pin the music you like most, whether it's an artist, album, or playlist. A new automix option uses AI to flow between songs like a DJ, fading between them and matching beats.

Maps: New AI tools will recognize your preferred routes and surface them with info about travel time, and you can optionally let AI automatically detect the places you visit and keep them in a list so you can easily recall or share details



A new Games app brings together your whole games Library.

about places you've been. They're all stored with end-to-end encryption, so nobody else (including Apple) knows where you've been. And you can delete any stored place with a swipe.

Games: A new Games app brings together your whole games Library, all the Apple Arcade games, and your friends list.

If you make a voice call, an AI voice can translate what you say to the person you're calling.

It's designed to be used in either portrait or landscape and to be navigated with a controller, too.

LIVE TRANSLATION

New live, real-time translation tools permeate iOS 26.

For instance, you can get real-time captions on FaceTime calls. If you make a voice call, an AI voice can translate what you say to the person you're calling, and then translate what they say back to you. And that works even if the other person doesn't have an iPhone.

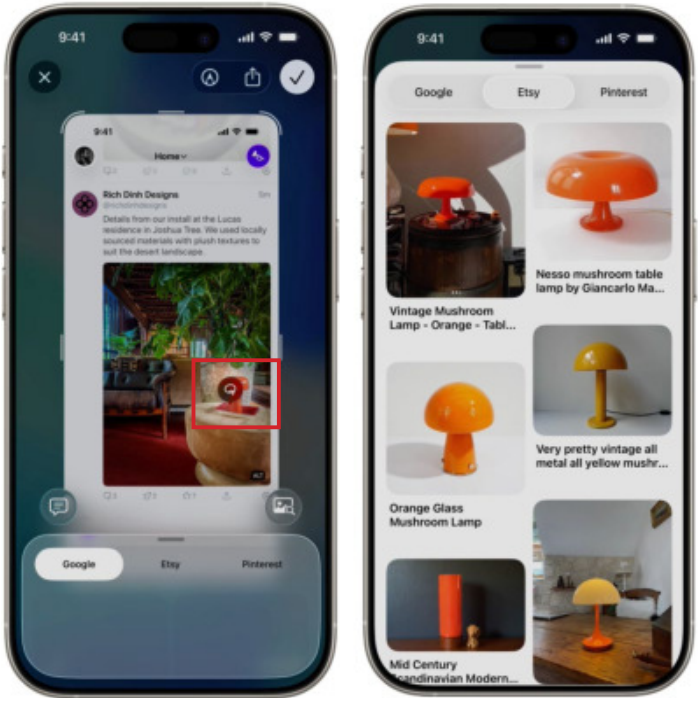
In Apple Music, you can get live translation for lyrics on songs in a foreign language. And for some languages, you can get a pronunciation guide in real time, so you can sing along in the foreign language.

And of course, Messages gets translation tools, too. What you type can be translated into another language as it is sent to someone else, and their replies can be automatically translated to your language.

VISUAL INTELLIGENCE EVERYWHERE

Finally, one of the best features of iOS 18 (on supported iPhones) is getting a *lot* more useful.

Visual Intelligence used to be sort of a



Visual Intelligence lets you start a search based on part of an image.

camera mode—it opens a camera view and you have to take a photo of something to get information about it, or add details to your contacts or calendar.

Now, Visual Intelligence essentially works with screenshots. Just grab a screenshot of any webpage, social media post, or whatever else you've got on your screen. You can then highlight an object or area you want to get info on or search for, but Visual Intelligence will also just look at your screenshot to make suggestions like calendar events or contacts so you can add them with a tap.

Of course, there are dozens of other features in iOS 26, so be sure to check out all our Worldwide Developers Conference coverage as we dive into the details.

COMPATIBILITY

Apple says iOS 26 will be compatible with the following phones:

> iPhone 16e

> iPhone 16, 16 Plus, 16 Pro, 16 Pro Max

> iPhone 15, 15 Plus, 15 Pro, 15 Pro Max

> iPhone 14, 14 Plus, 14 Pro, 14 Pro Max

> iPhone 13, 13 mini, 13 Pro, 13 Pro Max

> iPhone 12, 12 mini, 12 Pro, 12 Pro Max

> iPhone 11, 11 Pro, 11 Pro Max

> iPhone SE (2nd generation and later)

That means iOS 26 will support all iOS 18 phones except the iPhone XR, XS, and XS Max. ■

MACOS 2

THE 5 BEST FEA

TO YOUR MA

IMAGE: APPLE

THE MAC IS GETTING A VISIONOS-INSPIRED DESIGN, SHORTCUTS, AUTOMATIONS, AI UPGRADES, AND MORE.

BY MAHMOUD ITANI

26 TAHOE

ATURES COMING AC THIS FALL

During its Worldwide Developers Conference 2025 keynote, Apple previewed macOS Tahoe 26. With this year's software releases, the company is streamlining the OS version numbers—aligning them with the upcoming year. More importantly, it's unifying the user interface across its platforms and introducing a ton of functionality for Mac, iPhone, and iPad users. Curious about what's coming to your Mac later this year? These are the five biggest changes included with macOS 26 Tahoe.

LIQUID GLASS DESIGN

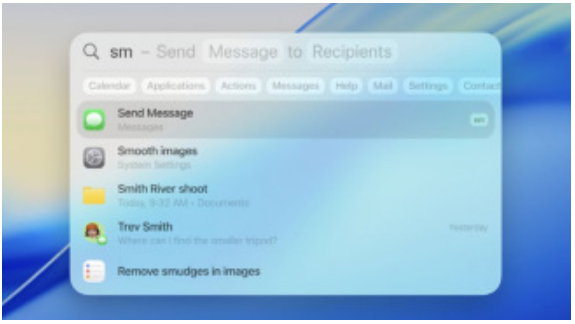
Perhaps the most noticeable change bundled with macOS Tahoe 26 (fave.co/40tNQ7w) is the fresh user interface dubbed Liquid Glass. This release borrows the translucent look first introduced with visionOS and applies it across Mac menus, app icons, the Dock, Control Center toggles, and so on. By retiring the excessive use of solid colors in favor of translucency, macOS 26 makes the Mac look more futuristic than ever. The interfaces reveal the hues of objects behind them, making it easier to maintain the context as you scroll.

The update also overhauls the menu bar, making it fully transparent. And it refreshes the Control Center with a new, customizable layout, similar to the existing one on iOS 18. Speaking of which, dark and tinted app icons have also been brought to the Mac with this release,

macOS Tahoe has a new Liquid Glass look for the dock and other system elements.

following a year of iPhone and iPad exclusivity.

To make the Mac more personalizable, macOS 26 will also let you change the folder colors in Finder and add your preferred emojis or icons. The change will simplify categorization and make it possible to identify content at a glance.



The upgraded search bar can compose emails and iMessages directly by providing convenient recipient, subject, and content text fields.

NEXT-GEN SPOTLIGHT

macOS Tahoe 26 also applies the Liquid Glass look to Spotlight Search. That, however, isn't the most notable upgrade to the universal, systemwide search. With this update, macOS will let users perform tasks at a faster pace by suggesting apps and actions based on the context. This will include files stored on third-party clouds as well.

Spotlight Search on macOS Tahoe 26 will also support executing actions directly. This spares you from having to manually launch apps to locate the relevant menu or button. The upgraded search bar can even compose emails and iMessages directly by providing convenient recipient, subject, and content text fields.

Beyond that, Spotlight Search has introduced Quick Keys. With this feature, you can quickly trigger specific actions by typing just a couple of letters. So, for example, you could type SM to initiate the Send Message action. Fortunately, these new perks tie into the App Intents application programming interface, letting third-party developers add handy Spotlight shortcuts for their applications.

With Spotlight Search on macOS 26, you can finally access your clipboard history. So, instead of being limited to pasting the last copied item, you can view previous text and photos you've copied and reinsert them as needed.

DEDICATED APPLE GAMES APP

It's no secret that Apple is trying too hard to become relevant in the gaming space. macOS Tahoe 26 takes the company's vision a step further by introducing a dedicated Games app. With Apple Games, you've got the main Home tab, which highlights recently played games and recommended titles. Other tabs include

With Apple Games, you've got the main Home tab, which highlights recently played games and recommended titles.

Arcade—which houses games from Apple's subscription service—and Play Together for connecting with Game Center friends. There's also a Library tab for viewing all of your titles.

When playing a game, macOS 26 offers a Steam-style overlay. When that's triggered, you can quickly invite or chat with friends you're gaming with—without leaving the game itself. It also lets you control the game controller, Energy and Game Modes, volume, and so on.

macOS Tahoe 26 also introduces support for Metal 4, unlocking next-level graphics and rendering in Mac games.

SMARTER APPLE INTELLIGENCE

While macOS Tahoe isn't an AI-centric release, it adds a few Apple Intelligence tools. Arguably, the most significant addition is on-device, live translation support in calls and messages. This makes communicating with speakers of other languages in real time more manageable.

Apple's in-house image-generation capabilities are also getting a boost. Genmoji now lets you mix two emojis to create a single sticker. It also supports tweaking the appearance and facial

Yes, that's the Phone app—on your Mac.

expressions of the person, if applicable. Image Playground will get more powerful with native ChatGPT integration, letting you generate images in more styles using OpenAI's superior models.

macOS Tahoe 26 also caters to power users by integrating Apple Intelligence into the Shortcuts app. This enables you to create actions that incorporate asking ChatGPT, Apple's Private Cloud Compute, or the on-device models.

FAMILIAR iPHONE PERKS

macOS Tahoe borrows existing and new iOS features. Similar to iPhone notification mirroring, your Mac can now show iOS Live Activities in the menu bar. It has introduced Phone and Journal apps, in addition to an Automations tab in the Shortcuts app. This lets Mac users view Contact Posters, utilize iOS 26's (fave.co/44uVU9u) Call Screening and Hold Assist tools, and more.

WHICH MACS ARE COMPATIBLE WITH MACOS 26?

Apple has eliminated numerous Macs that support macOS Sequoia, including many Intel ones. Here are the compatible models:

> MacBook Air with Apple silicon (2020 and later)

> MacBook Pro with Apple silicon (2020 and later)

> MacBook Pro (13-inch, 2020, four Thunderbolt 3 ports)

> MacBook Pro (16-inch, 2019)

> iMac (2020 and later)

> Mac mini (2020 and later)

> Mac Studio (2022 and later)

> Mac Pro (2019 and later)

That means the following Macs won't be able to install Tahoe:

> MacBook Air (Retina, 13-inch, 2020)

> MacBook Pro (13-inch, 2018, four Thunderbolt 3 ports)

> MacBook Pro (15-inch, 2018)

> MacBook Pro (13-inch, 2019, four Thunderbolt 3 ports)

> MacBook Pro (15-inch, 2019)

> MacBook Pro (13-inch, 2019, two Thunderbolt 3 ports)

> MacBook Pro (13-inch, 2020, two Thunderbolt 3 ports)

> iMac (Retina 5K, 27-inch, 2019)

> iMac (Retina 4K, 21.5-inch, 2019)

> iMac Pro (2017)

> Mac mini (2018)

WHEN'S MACOS 26 COMING?

macOS Tahoe 26 is already available to those enrolled in Apple's developer program. The company will be launching its public beta program soon. If you don't have a spare Mac, we advise you to wait until the stable version arrives this fall. Early developer betas are often riddled with bugs that could break your workflows, and it's best not to install these builds on your main machine. ■

love it or lose it

Time is running out to protect our pollinators.
Act now.

wwf.org/love

Love Safari? These 8 reasons will make you consider a switch to Chrome

Should Chrome or Safari get your vote in the browser wars? Here are eight reasons to give Google's browser a chance.

BY ALEX BLAKE

Apple users can be a pretty loyal bunch, often sticking to Apple-branded hardware and apps while giving third-party alternatives the cold shoulder. But sometimes it's worth looking outside the walled garden. For example, Google Chrome is immensely popular, taking the lion's share of the global browser market and dominating the competition. That's not without good reason, and even if you've faithfully stuck with Safari over the

IMAGE: PREMIO STOCK/SHUTTERSTOCK

years, you might be curious about what Chrome has to offer.

The answer, it turns out, is quite a lot. From an extensive arsenal of extensions to rapid security updates, there are plenty of reasons why Safari users should consider switching to Google's browser:

CHROME HAS BETTER EXTENSION SUPPORT

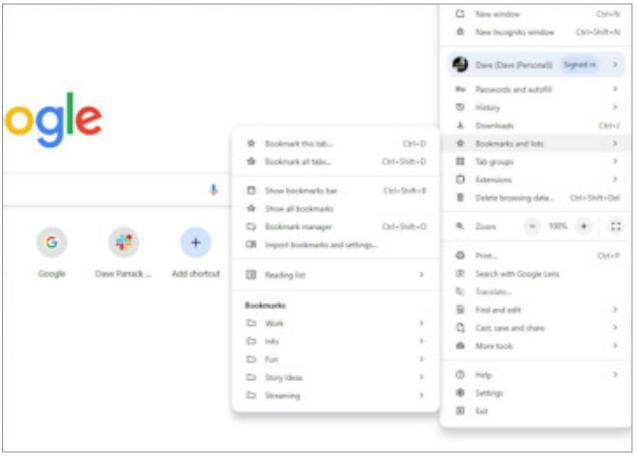
Extensions are the lifeblood of a web browser, helping to enhance its capabilities in ways far beyond the usual ones. If there's some sort of extra functionality you want to add to your browser, chances are there's an extension that can help you get it.

Chrome's market dominance in PCs means it's the main browser that extension developers build their web tools for. According to Chrome-Stats.com (fave.co/3G4xlTh), there were almost 156,000 extensions in the Chrome Web Store as of April, and while Apple doesn't publicly disclose the number of Safari extensions in existence, the number is likely to be much lower due to the smaller market share Safari has versus Chrome. You can just look at the respective stores and see that you're spoiled with options in Chrome compared to other browsers.

Of course, you don't exactly need all 156,000 of those extensions to be running in your Chrome browser at once, but the sheer number of options means there's a greater chance of finding the extension that changes your browsing life.

CHROME SYNCS ACROSS ALL DEVICES AND PLATFORMS

One of the best parts of owning Apple devices is the way they all integrate seamlessly with each other via iCloud. That's reflected in the Safari browser, which shares tabs and bookmarks across your devices. For instance, if you're reading a page in Safari on your iPhone, an icon will pop



Chrome allows you to sync your tabs, bookmarks, and more across your devices.

up in your Mac's Dock that lets you open that tab on your computer.

Chrome doesn't offer that functionality yet, but it arguably has something better: cross-platform syncing. It doesn't matter if you're using iOS, Android, macOS, Windows, Linux, or anything else—as long as you've got Chrome installed on your devices and sign in with your Google account, you can sync your tabs, bookmarks, and more across them.

That makes Chrome much more flexible for people who aren't totally all-in on the Apple ecosystem. So if you're running a Windows PC at work but browsing Chrome on an iPhone at home, or if you want to send a tab from your Android device to your Mac, Chrome lets you do it with ease.

CHROME IS INTEGRATED WITH GOOGLE'S OTHER SERVICES

It should come as no surprise that Chrome works extremely well with Google's other products and services, giving you a quick and easy way to use websites like Google Drive, YouTube and Google Search without much effort.

Sign in to Chrome and it'll sync all your bookmarks and tabs for you. It'll also automatically sign you in to Google's other services, making it a little easier to get started with them. As well as that, if you enable the Web & App Activity option in Chrome's settings, it'll use your Chrome history to personalize what you get elsewhere, including content recommendations and tailored search results based on what Google has learned about you.

This will be more appealing to you if you use a lot of Google services. If you do, Chrome can make the experience a little smoother.

CHROME GETS FASTER UPDATES

When it comes to patches and bug fixes, Google works very quickly. It's not unusual to find a new update has been released every few days, and these are crucial to fix bugs and security vulnerabilities that could cause problems if they're exploited.

As well as that, Chrome is also regularly updated with new features throughout the year. So you can expect a steady stream of new tools that make Chrome better.

Apple takes a more measured approach with Safari. While it's also quick to release security updates, they are tied to larger macOS updates, so known vulnerabilities can persist for weeks before they are patched. And new features arrive on a much slower cadence. Most new additions come once a year at Apple's Worldwide Developers Conference, with only very occasional new features arriving throughout the year. And those, too, are

tied to general macOS updates and don't arrive as quickly.

CHROME'S MEMORY MANAGEMENT ISN'T ALL BAD

Chrome might have a bad reputation as a memory hog, but it's gotten a lot better in recent years. For one, memory use isn't as much of an issue now that all new Macs run Apple silicon chips and start at 16GB of RAM, but even if you have an older machine, Chrome offers several tools to keep precious RAM resources free.

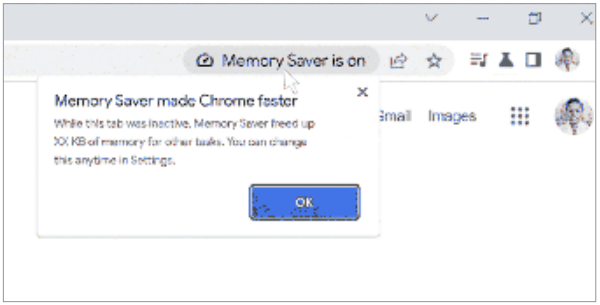
Over in the Chrome settings, there's a feature called Memory Saver that gives you control over background tabs. There are three options—Moderate, Balanced, and Maximum—with the most extreme shutting down activity after a shorter period of time. You can also monitor your memory usage for each tab and whitelist certain sites so they'll always be allowed to stay active.

CHROME HAS MORE CUSTOMIZATION OPTIONS

Over the years, Apple has been slowly adding customization features to Safari, including the option for multiple profiles and allowing changes to the layout of tabs and other interface elements. But despite these advances, Chrome still has the edge here.

Google's browser offers all sorts of themes and color options to choose from. Better yet, these are built into the browser, so there's no need to find and download them elsewhere. Of course, you can download themes from outside the browser as well, if you like.

Safari lets you move the tab bar around, display the Status Bar, and more, but it's nothing close to what you get with Chrome. For some people, that might not matter, but Chrome definitely gives you much more freedom to make the browser your own.

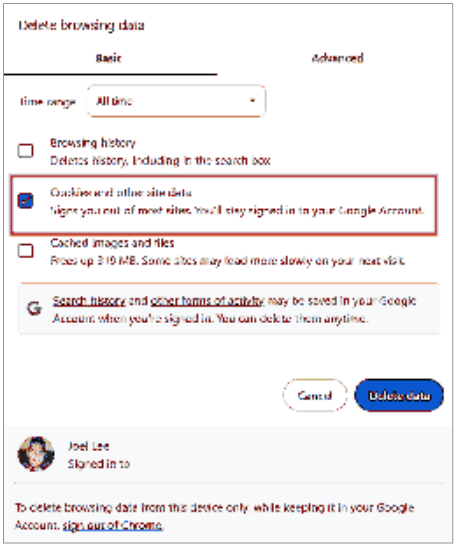

Memory Saver is on
Memory Saver made Chrome faster
While this tab was inactive, Memory Saver freed up
XX KB of memory for other tasks. You can change
this anytime in Settings.
OK
Images

Chrome's Memory Saver feature gives you control over background tabs.

CHROME IS MORE PRIVATE THAN YOU THINK

OK, this is going to be a contentious one, as Chrome doesn't exactly have a stellar record when it comes to privacy (I actually use Firefox as my main browser, mostly because privacy is most

You can customize Chrome's privacy settings.


Delete browsing data
Basic
Advanced
Time range
All time
Browsing history
Deletes history, including in the search box
Cookies and other site data
Signs you out of most sites. You'll stay signed in to your Google Account.
Cached images and files
Frees up 319 MB. Some sites may load more slowly on your next visit.
Search history and other forms of activity may be saved in your Google Account when you're signed in. You can delete them anytime.
Cancel
Delete data
Joel Lee
Signed in to
To delete browsing data from this device only, while keeping it in your Google Account, sign out of Chrome.

important to me). But while Chrome certainly lags behind the likes of Safari and Firefox when it comes to protecting your data, it's not a total write-off.

There are a few ways you can improve the situation. For example, there are plenty of privacy-preserving extensions available in Chrome, such as uBlock Origin Lite, Ghostery, Privacy Badger, and more. These can block the ads and trackers that Chrome lets through by default.

What about the data that Chrome itself collects on you? After all, it's Google's business model to sell data on its customers to advertisers. Here, Chrome has some privacy settings that can help you rein things in. Inside the Chrome settings, you'll find toggles to turn off things like ad topics and ads measurement that will limit (in theory) how much data Chrome can collect. You can also take a tour of the options in the Privacy Guide section of Chrome's settings. Granted, you're never going to be able to get the kind of pro-privacy experience you will from Safari, so if you're concerned about your data, you should stick with Safari or Firefox, which offer far more built-in protections. That said, you've got a few options if you want to stick with Google's offering.

CHROME GETS AN AWESOME SAFARI FEATURE IN iOS 26

iOS 26 isn't coming until the fall, but it brings a major feature that was previously only available to Safari users: autofilling security codes (fave.co/3TWDb1r). Safari users know the convenience well: When a website asks for a multi-factor authentication code, the browser automatically grabs it from Mail or Messages and fills it in with a click. In iOS 26, that will no longer be limited to Apple's browser—it's coming to Chrome and other third-party browsers, too. And what's more, you can now even get codes from the Gmail app (fave.co/4kli7g5). ■

Shocking security breach of 16 billion logins includes Apple IDs

Exposed records are being made available to threat agents on a massive scale.

BY ROMAN LOYOLA

Cybernews reported (fave.co/4nufaN0) in late June on its research that resulted in the online discovery of 30 datasets, including 16 billion records of user login information for "pretty much any online service imaginable," such as Apple, Facebook, and Google.

The records include a URL and login information. Since this data is what malware often collects, it appears that these records are a result of numerous information theft attacks. Cybernews states that the datasets do include overlapping records, but the enormity of the data collection makes it difficult to compare individual records to conclude how many users have been exposed.

The exposed datasets have not been previously reported, except for one (fave.co/44aw6k4) discovered by Jeremiah Fowler that had 185 million unique usernames and passwords. The datasets are also made available temporarily and

IMAGE: BLACK_KIRA/SHUTTERSTOCK

are taken down after some time. Cybernews states that new databases appear “every few weeks” with “fresh, weaponizable intelligence.” It is also not clear as to the origins of the datasets and who is behind the data collection.

HOW TO PROTECT YOURSELF

To protect yourself from malware, avoid downloading software from repositories such as GitHub and other download sites. Apple has vetted software in the Mac App Store, and it is the safest way to get apps. If you prefer not to patronize the Mac App Store, then buy software directly from the developer and their website. If you insist on using cracked software, you will always risk malware exposure.

Never open links in emails or texts you receive from unknown or unexpected sources. If you get a message that looks like it is from an entity you do business with, check the sender’s email address and inspect the URL carefully. If you see a link or button, you can Control-click it, select Copy Link, and then paste it into a text editor to see the actual URL and check it.

Phishing attacks often involve a user inadvertently visiting a website with a mistyped URL. Verify the URL you have typed into your browser. Bookmark the sites you visit frequently so you don’t have to type in the URL every time. In some instances, you can use a search engine; type the name of the place you want to visit, and then click on the link after looking at the URL it goes to. For example, type “Macworld” into the search engine you use, and then click on the link that’s designated at www.macworld.com. This way isn’t as efficient, but if you make a typo, you’ll see it in the search, and the search engine will steer you in the right direction.

In an instance where you believe that your data was exposed in a data breach, there are a few steps you should take to protect yourself:

> If you continue to use the service that was breached, change your password and enable two-factor verification.

Never open links in unsolicited emails.

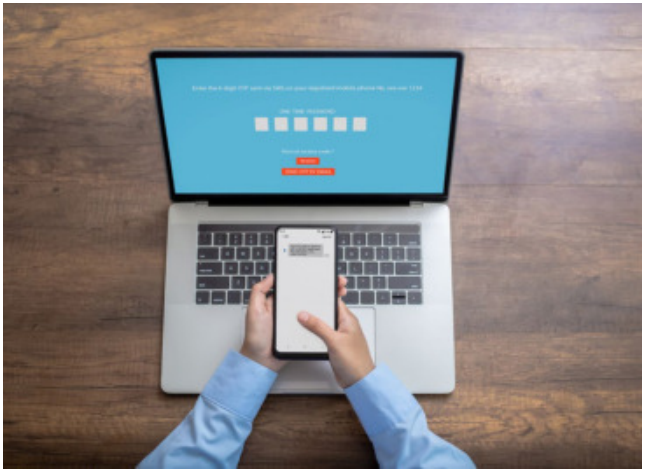


IMAGE: KT STOCK PHOTOS/SHUTTERSTOCK

Enabling two-factor authentication will boost your security.

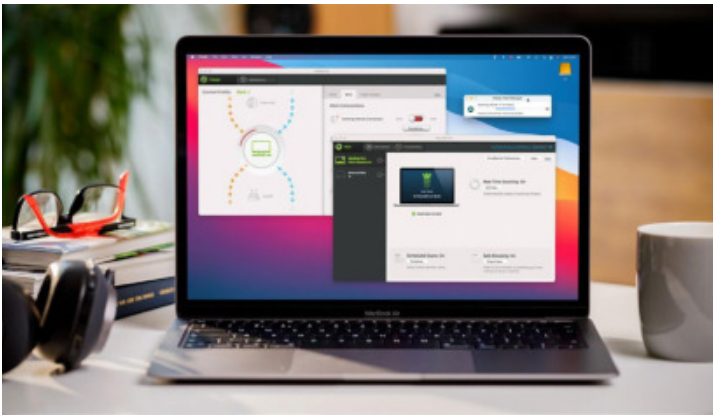
> Check your credit report and freeze it. This will help block unauthorized approvals to financial services made in your name. If you need to sign up for a service (such as a loan or credit card), you can temporarily unfreeze your account so a credit check can be performed.

> Check records for all of your financial institutions. If you access them online, change passwords and enable two-factor verification. Some institutions provide alerts when attempts are made to access your account.

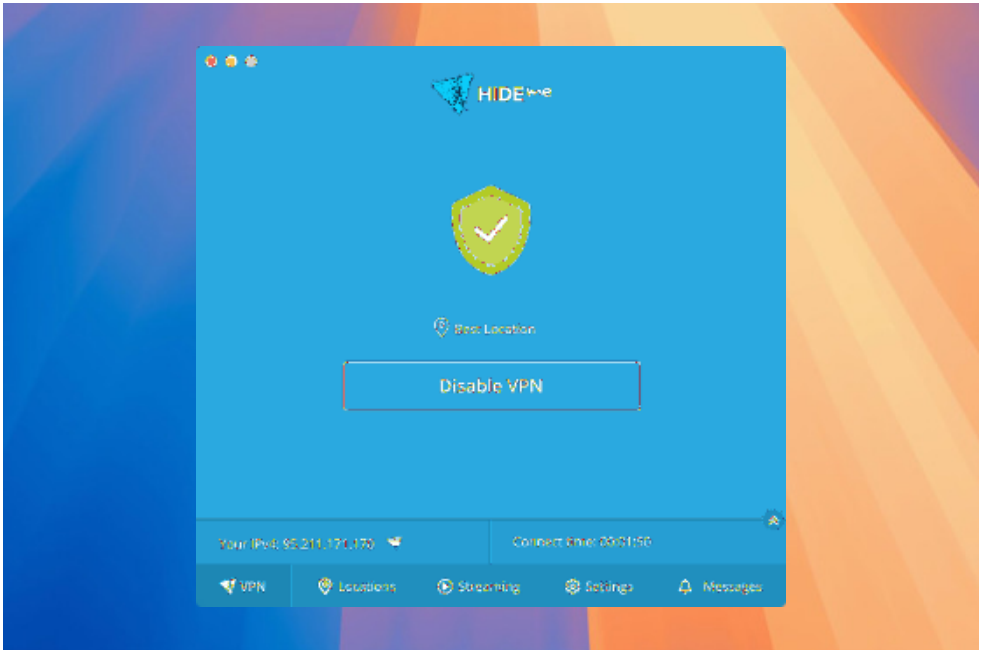
> Use a service such as Have I Been Pwned (fave.co/3hr8Cxw) to see if your email address was involved in a data breach.

Apple releases security patches through OS updates, so installing them as soon as possible is important. It's also important to update the apps on your Mac, which you can do through the App Store or the app's settings.

Macworld has several guides that can help you, including a guide on whether you need antivirus software (fave.co/42Xt7bS), a list of Mac viruses, malware, and trojans (fave.co/3ZtAe9e), and a comparison of Mac security software (fave.co/3Gaf9tt). ■



Intego Mac Internet Security X9 is our favorite Mac security software.



Hide.me VPN: Easy-to-use Mac and iPhone VPN with a free tier

Hide.me is a great VPN for all Apple platforms that's easy to recommend at this price.

BY LLOYD COOMBES

Hide.me is a VPN that ticks just about any box you can ask of it. There's a free plan (fave.co/4ntwi5m) to try (although it's very limited), and it's just as good at unblocking Netflix libraries from the other side of the globe as it is at keeping your data obfuscated.

It's super easy to use, meaning anyone can log in and get started, but it also has a bevy of more advanced features that include split tunneling and multihop connections, among others. All of this combines into a feature-rich VPN that's ideal for just about anyone, but with the added bonus of a device limit of 10

IMAGE: HIDE.ME

(double some of its rivals), 24/7 live chat, and a really slick interface.

In truth, our only gripe is a relatively low server count (although from our testing, these do tend to be where they say they are), which spoils the fun somewhat. There are still well over 2,500 of them, but with some rivals in our Best VPN for Mac (fave.co/3Ao3N0D) test, breaking the 7,000 mark for the same price, it's pretty much the only area of improvement we'd suggest for what is otherwise a fantastic VPN.

FEATURES AND APPS

As with many VPN services we've been testing, Hide.me is available on pretty much any device, with native apps for Windows, Mac, iPad, Android, and iOS.

We're focusing on the Mac app today, and as with many of its contemporaries, it's got a main application window and a Menu bar icon you can use to quickly access it.

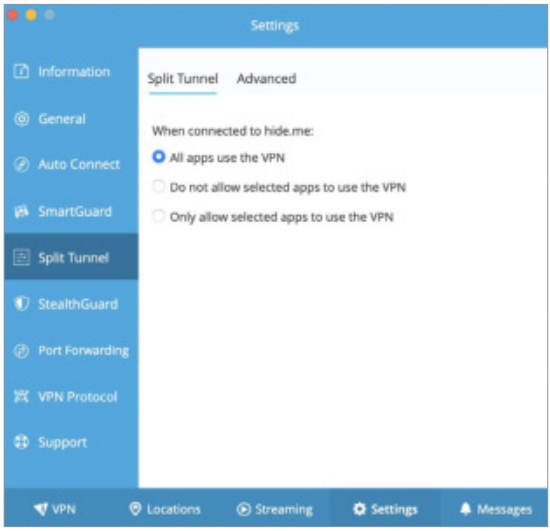
The initial setup is much less focused on providing you with a whole range of options and simply getting you using the app quickly, and I appreciated how straightforward the process was.

It may sound silly, but some VPNs we've tested have had much longer setup processes, and while some will want plenty of tutorialization, there's no real danger of getting lost here.

That's because while Hide.me does have more advanced features like split tunneling, multihop servers, and more (which we'll come to), it keeps those out of the way. Want to quickly jump to a server? Just open it and click the big Enable VPN button.

If you'd prefer to select where you're connecting, you can do so via a list of locations, or a second list more focused on streaming-friendly options.

It's also nice to see 10 simultaneous connections available, allowing one plan

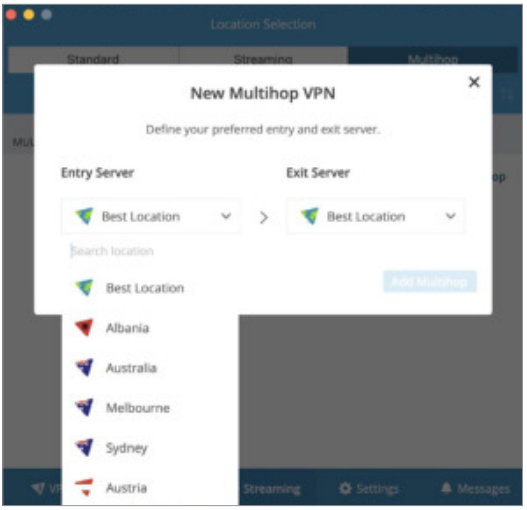


Hide.me has more advanced features like split tunneling, multihop servers, and more.

to cover a family's devices (or one tech reviewer's usage).

Split tunneling lets you send traffic via the VPN on a per-app basis, while a Kill Switch can stop all traffic the moment your connection to the VPN wavers.

We're also pleased to see multihop connectivity included in the price. This essentially means you bounce your data between a series of servers rather than just one, further hiding your data and making your information much harder to trace, albeit with an impact on the connectivity speed.



Multihop means you bounce your data between a series of servers rather than relying on just one.

PERFORMANCE

Users opt for VPNs for a variety of reasons, but many of them boil down into privacy or geo-unblocking, and we've got good news on both fronts when it comes to Hide.me.

Privacy-wise, we've found the app to operate with minimal bandwidth drops while maintaining a no logs policy (more on that in a moment).

OpenVPN is supported, as you may expect, but IKEv2, SoftEther, and SSTP are here, too. That means if you're having compatibility issues, it's nice and easy to shift over to an alternative protocol.

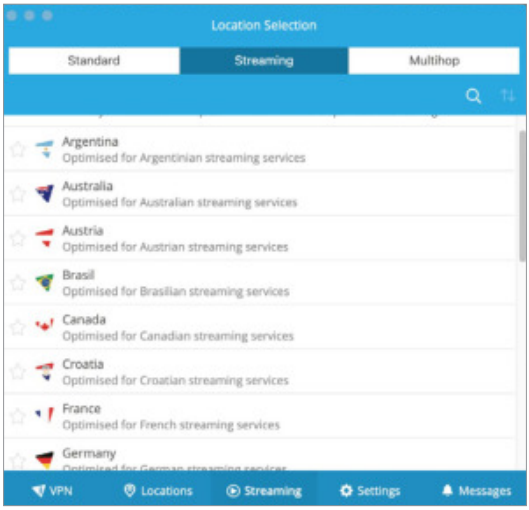
We found sub-10% download speed drops across multiple servers, making it one of the slicker VPNs we've tested.

So, what about geo-unblocking? As you may have expected, with a range of streaming-friendly servers included in the list of connection options, Hide.me does a great job of switching your location.

In fact, none of the various streaming services we attempted to use were smart enough to catch on, meaning it's one of the rare streaming services that's a binge-watcher's dream.

PRIVACY AND SECURITY

Hide.me is an offshore VPN, with its headquarters in Labuan, Malaysia, giving it



You can choose the location of your server.

anonymity away from the Five Eyes intelligence coalition and just about anywhere else.

The company also has a strict no-logs policy, which prevents it from keeping any data on users and their sessions.

Unlike some of its rivals, however, Hide.me appears to have had its most recent audit a decade ago. Here's hoping for another in the coming months.

PRICING AND PLANS

While some rivals, like Mullvad, offer a significantly cheaper monthly subscription fee, Hide.me operates like many other VPNs in that it incentivizes longer-term subscriptions with much lower fees. There's nothing inherently wrong with that, but with VPN legislation and functionality constantly in a state of flux, don't be surprised if functionality waxes and wanes throughout the duration of a longer-term plan.

There is, thankfully, a free plan, and while it's lacking a whole host of basic features, it'll do in a pinch. It has a handful of locations, but there's no multihop functionality or support for streaming services. Still, we're glad it's here.

You can sign up for two years for as little as $2.69/£2.69 a month when billed annually, but otherwise it'll set you back $9.99/£9.99 per month, which is comparable with the prices of the industry leaders.

4½

Hide.me VPN

PROS

- Free tier.
- Streaming-focused servers included.
- Advanced features.

CONS

- Fewer servers than other options.

PRICE

From $2.69 / £2.69

COMPANY

Hide.me

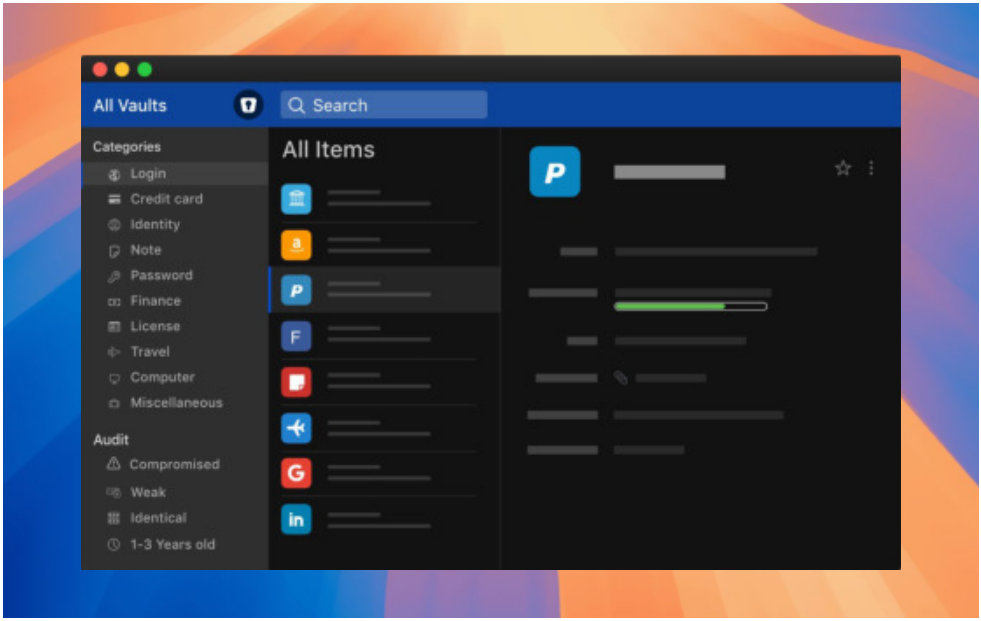
VERDICT

Truly the Goldilocks option for many VPN users, Hide.me is a fantastic service that offers a whole host of features and excellent streaming support. Here's hoping for more servers soon, because that's the only fly in this porridge at present. ■

Enpass: Password management for a lifetime

Enpass offers plenty of security and flexibility for a very reasonable price. But is it enough to topple the biggest names in this highly competitive part of the market?

BY MARTYN CASSERLY



Password managers have joined the list of essential software we need to use every day to stay safe and sane when dealing with all the logins and accounts we have in the modern digital world. Enpass is one that has been around for a good while now, offering cross-platform support, plenty of features, and some interesting subscription options. We put it through its paces to see how it fares in the ultracompetitive world of password management.

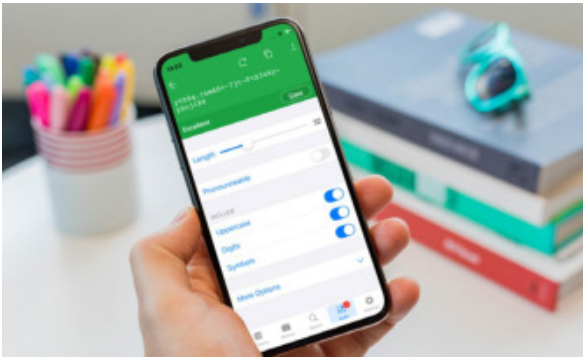
SOFTWARE AND FEATURES

Enpass follows the well-trodden path laid by the majority of password managers

IMAGE: ENPASS

(fave.co/4bPSGza) when it comes to design and features. Once you set up a free account to test out the service, you'll need to decide where you'll store the password vault, as Enpass doesn't keep this on its own servers.

There are the normal cloud storage options—iCloud, Google Drive, OneDrive, and so on—plus you can store everything locally on your phone or laptop if you prefer. The vault is secured with a master password you create to prevent hackers from stealing the information, but you can use biometrics (Face ID and Touch ID) to quickly access your vault without needing to enter the password each time.



Enpass analyzes the strength of your password security.

With that done, you can import your existing passwords from other passwords managers by downloading a CSV file and placing it in your vault. Your account login details are listed alphabetically in the Enpass app, and you can quickly search for items by typing in their names. The free tier you start with limits the number login items to 25, so it's really only useful as a trial run unless you log into very few sites. Upgrading to the premium tier (which is very affordable) grants you unlimited items across all your devices.

There's a handy autofill feature that you can trigger by tapping the Passwords option that pops up on your iPhone when logging into sites. This then takes you briefly to the Enpass app and retrieves the account details, which it then uses to autopopulate the fields. It's not quite as seamless as some other password managers on the market, but it works well and was consistent—which is the most important thing.

It's not only passwords you can store in Enpass, as there are also sections for payment cards, ID, passkeys, secure notes, and licenses, as well as travel tickets and a few other options.

Enpass is available on iOS, macOS, Apple Watch, Android, and Windows, so no matter what combination of devices you or your family has, it should be covered.

SECURITY AND ENCRYPTION

The security protocols in place with Enpass are again ones we see across most password managers these days. The

service uses 256-bit AES end-to-end encryption, so your data will be locked up tight even when stored on cloud servers.

As mentioned earlier, you get to choose where you keep your data, plus there's the safety measure that the encryption key is partly derived from your master password, which Enpass doesn't know, so no one at the company will be able to open your vault.

Of course, this also means if you forget your password, you're a bit stuck, as customer support can't unlock your vault either. That's why it's essential you use something you'll remember, but not just an easy combination of pet names and previous addresses. This may sound daunting, but as you'll only have to remember one password from now on, it's a little easier to get it in your head.

Enpass also features a security audit, which analyzes the strength of your password security and warns of any breaches that have been reported from other sites, plus which passwords you need to change. As you'd expect, there's a password generator built into Enpass that can be used to create new ones, with settings for length and alphanumeric characters, as well as symbols that can be combined in accordance with the demands of the site or account.

Enpass

PROS

- Unlimited devices and passwords.
- Reliable autofill.
- Store your vault wherever you choose.

CONS

- A little clunky at times.
- Free tier is limited to 25 passwords.

PRICE

From $23.99 / £19.49

COMPANY

Enpass

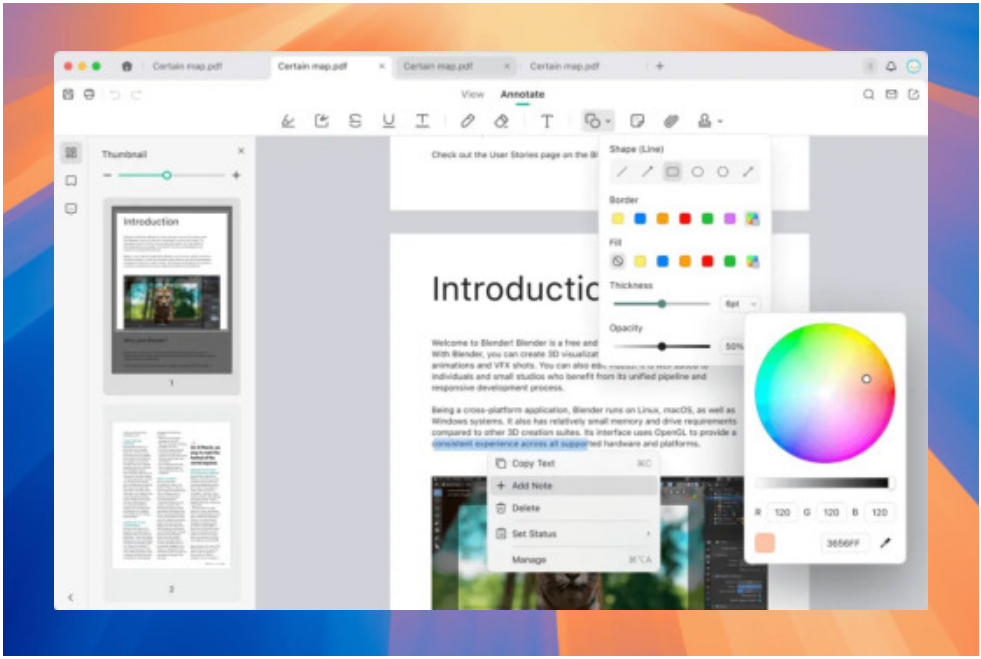
PRICE AND AVAILABILITY

The free tier of Enpass (fave.co/4I8VkW5) is quite limited with its restriction of 25 login items, but upgrading to the unlimited Premium tier isn't onerous, as it costs only $23.99/£19.49 per year, although at the time of writing the service was offering the first year for only $9.59/£7.79, which is an excellent price.

If you prefer to ditch yearly subscriptions, then there's a lifetime option available that gives you access to the Premium subscription for as long as you or Enpass last. This costs $99.99/£92.99 as a one-off payment, but the deal that was running at the time of writing lowers this to $89.99/£83.69.

VERDICT

If you want the basics of password management covered, then Enpass has everything you need, and if the special offer holds, then it comes at a price that is very competitive. The option to store your vault where you want is a good option for those who prefer to control the location of their data, while the range of features available makes Enpass a solid tool for managing your accounts and beefing up their security. ■



SwifDoo PDF for Mac: Basic PDF editor with limited functionality

While this PDF editor supports basic document manipulation, it lacks the advanced tools offered by rivals.

BY MAHMOUD ITANI

PDF editors are essential for Mac users living the paperless lifestyle. While macOS can view, annotate, and sign PDFs natively, the OS provides little control over the files' core content. So those wishing to tweak the text or images of a certain PDF document will have to rely on third-party solutions. With so many apps out there, however, finding the right pick may be tricky. SwifDoo PDF for Mac is one of the options you may come across when hunting for an editor. Is it any good, though? Let's take a look.

IMAGE: SWIFDOO

PRICING AND AVAILABILITY

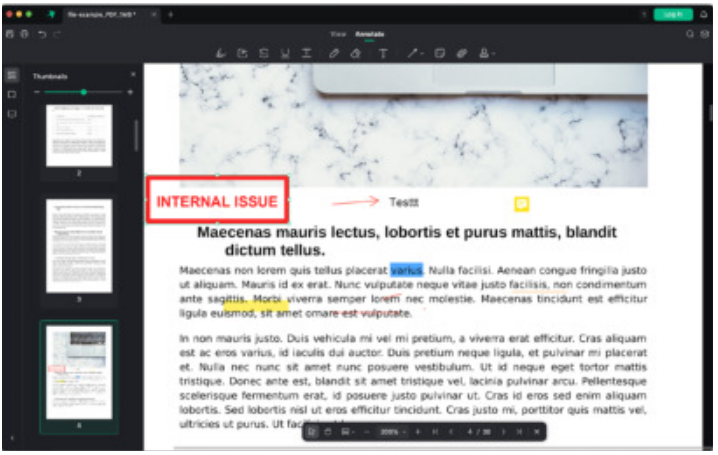
SwifDoo PDF (fave.co/4nL2p0P) supports macOS, iOS, iPadOS, Windows, and Android. Notably, however, the feature sets differ depending on the platform you're using. So, for example, the Windows app packs distinct capabilities unavailable on macOS or the mobile clients. Similarly, the price differs based on the OS you're running it on. In this review, we will be evaluating SwifDoo PDF for macOS specifically. The rating, pros, cons, and overall specifications only apply to this particular client.

SwifDoo PDF for macOS is available to install and use as a document viewer for free. However, the paid version is required to unlock its core features, such as editing and annotation. At the time of writing, the monthly plan costs $10, while the annual one goes for $20. Alternatively, you could avoid paying for the recurring subscription by paying a one-time fee of $50 or $70 to own a lifetime license for one or two Macs.

Before committing to the purchase, you can create an account to claim a 7-day free trial and evaluate the service. Unfortunately, if you decide not to proceed, you'll need to contact the company's customer support to have them delete your account and its data.

While SwifDoo PDF was designed for Intel Macs and seemingly hasn't been optimized for Apple silicon chips, it runs pretty smoothly on my MacBook Air M2. It features a clutter-free main page where you can interact with recently viewed files or open a different PDF via Finder.

Once you load a document, you can tweak it using the standard annotation tools if you're using the paid version. These include highlighting, inserting notes, underlining, striking through, drawing, adding text boxes and shapes, stamping, and more. Other SwifDoo PDF perks



Once you load a document, you can tweak it using the standard annotation tools if you're using the paid version.

Beyond the basics, SwifDoo PDF supports simple document manipulation.

include page rotation, printing, and an autogenerated index that lets you quickly jump between document sections based on their headings.

Beyond the basics, SwifDoo PDF supports simple document manipulation. The software provides full control over PDF files' core content, letting you intuitively adjust the existing text's font, alignment, and spacing. Similarly, you get to resize, crop, move, and rotate original images or insert new ones. If you're handling sensitive files, SwifDoo PDF also enables you to protect documents with a password to prevent unauthorized viewing, editing, or copying.

SwifDoo PDF for Mac

PROS

- Supports macOS, iOS, iPadOS, Android, and Windows.
- Intuitive, modern user interface.
- Flexible pricing.

CONS

- Mac client doesn't offer features such as cloud sync, AI chatbot, OCR, or file conversion.
- Account deletion requires customer support.
- Overpriced monthly plan.

PRICE

Free (paid-for option)

COMPANY

SwifDoo

Notably, unlike the Windows client and other rival Mac apps, SwifDoo PDF for macOS doesn't include an AI chatbot for assistance, optical character recognition, batch processing, file format conversion, cloud sync, and so forth.

VERDICT

If you're planning to use the free version of SwifDoo PDF, then the software is not worth it. Given that even annotation tools are now paywalled (a previous version offered them for free), you may want to rely on the built-in Apple Preview app instead. After all, macOS's native solution requires no additional app installation and offers both viewing and annotation features for free.

If you have short-term PDF editing needs and plan to subscribe to the service for just a few months, then you may want to look into alternative PDF editors for the Mac. At the steep price of $10/month, you can find more feature-rich solutions that support the excluded tools mentioned in the previous section. ■

I see how hard you work.

But make time for me and see how much further we can go.

Love,
Your Mind

P.S. Find mental health resources
LoveYourMindToday.org

HUNTSMAN MENTAL HEALTH INSTITUTE

ad COUNCIL

As a Veteran, when someone raises their hand for help, you're often one of the first ones to respond. But it's also okay to get help for yourself. Maybe you want or need assistance with employment, stress, finances, mental health or finding the right resources. No matter what it is, you earned it. And there's no better time than right now to ask for it. **Don't wait. Reach out.**

ad COUNCIL

VA | U.S. Department of Veterans Affairs

Find resources at **VA.GOV/REACH**

AirPods Pro 3: 7 features that will take Apple's buds to the next level

The AirPods Pro 2 are great, but there's still room for improvement.

BY MAHMOUD ITANI

The AirPods have come a long way. When the first iteration launched in 2016, it featured a chunky build and mediocre specs. Since then, Apple has actively developed its wireless earbuds, introducing multiple tiers, more compact designs, longer battery life, and advanced integration with the wider Apple ecosystem. Today, customers can pick from models that start at $129 and go all the way up to $549—catering to different budgets (fave.co/35Pdsmd) and expectations.

The AirPods Pro 2 (fave.co/3ZWX6QO) happen to be my favorite model. They're the perfect balance between portability

IMAGE: APPLE

and immersion, offering support for ANC and Dolby Atmos in a miniature shell. And they get regular boosts from software updates, such as the recently introduced hearing health features. Nevertheless, there are some shortcomings that I'd like to see Apple address when it launches the AirPods Pro 3 (fave.co/4kfbThx), likely in September.

Here are the seven upgrades I hope we'll see from the next version of the AirPods Pro.

1. ACTUAL INTELLIGENCE

In an era dominated by AI, the world's most valuable tech firm still struggles (fave.co/46k0wBF) to deliver a reliable personal assistant. With this in mind, Apple baked ChatGPT into iOS 18, improving users' experience until it figures out how to fix Siri.

While I can instruct Siri to ask ChatGPT a question using my AirPods Pro 2, the task fails most of the time. It either asks OpenAI's chatbot an entirely different question or ignores my explicit ChatGPT request and offers generic web results. Curiously, I only encounter this issue when summoning Siri with my AirPods—the ChatGPT integration works just fine when initiating it from my iPhone.

With the AirPods Pro 3, I want Apple to integrate ChatGPT's voice mode, letting users start real-time audio conversations through their earbuds. Google's Pixel Buds already offer a similar Gemini Live experience, which enables users to inquire about more complex matters using natural language. My iPhone's Action button is currently set to start a ChatGPT voice mode session, but that requires me to take my phone out and unlock it when on the go.

2. AUTOMATIC TRANSLATION

Another handy Google Pixel Buds capability is live translation, and I'd love to see it on the AirPods Pro 3.

For the past five years, I've been moving between countries where English isn't widely spoken or a viable lingua franca. While the Translate app offers an Action button shortcut and can handle the task, communicating directly via the earbuds would be more intuitive outdoors. Fortunately, rumors suggest that iOS 19 will adopt such a feature (fave.co/3ZYNKVI), so we could see it when the next AirPods launch in the fall.

3. SHIFTING TO THE DARK SIDE

The AirPods Pro 3 are rumored to rock a shrunken look that does away with the stem. While I always find design overhauls exciting, size isn't the only aspect that matters.

Since their initial debut, all AirPods and AirPods Pro models have exclusively come

Black products and accessories are cool, as the iMac Pro demonstrated.

in white. With the next-gen release, I hope Apple puts out a black variant for those averse to light-colored gadgets. After all, the Magic Mouse and Magic Keyboard have already adopted this formula.

4. AMPLIFIED NOISE CANCELLATION

Active noise cancellation is one of my most treasured AirPods Pro 2 perks, letting me shut out the world when in public spaces. While the feature efficiently blocks out most external distractions, loud noise still manages to slip through. With the next AirPods Pro iteration, it would be great if we could get a stronger ANC that muffles more sounds.

5. SENSING THE BEAT

The Powerbeats Pro 2 (fave.co/46mZRPX) were the first Apple audio product to incorporate a heart rate sensor, and the AirPods Pro 3 could and should follow suit. But it should also take the feature further.

Notably, the Beats-branded earbuds come with a ton of restrictions that dictate how users can measure their heart rate. For example, only a handful of fitness apps, excluding Apple's own, support the monitor. Also, there's no option to pick a default heart rate monitoring accessory when wearing an Apple Watch and Powerbeats Pro 2 simultaneously. With the AirPods Pro 3, I wish Apple would address these limitations so users can rely on the technology when using Fitness+ and pick which wearable records the data.

6. ONE-TAP FIRMWARE UPDATES

If you're a tech enthusiast, you're likely familiar with the AirPods software update process (or lack thereof). Apple specifies that you can update your earbuds' firmware by bringing them close to your iDevice and connecting them to a power source. The process, however, occurs

The Apple Watch can monitor your heart; why can't the AirPods Pro?

randomly in the background, with seemingly no way to force it or monitor its progress.

When iOS 19 (fave.co/44uVU9u) and the AirPods Pro 3 launch this fall, I wish Apple would add a dedicated button in the Settings app to easily check for, download, and install the latest firmware available. This would make it more convenient for devoted users to try new features the moment they debut.

7. MORE LIFE PER CHARGE

One thing I dislike about my AirPods Pro 2 is their battery life. According to Apple, the earbuds can last 5 to 6 hours on a single charge with ANC enabled. That's significantly shorter than a full work shift or hiking session, often forcing me to pause my music and recharge. The Powerbeats Pro 2, on the other hand, offer up to 8 hours of listening time with ANC on. A similar battery life on the next AirPods Pro would be ideal.

A PRO DEVICE THAT LIVES UP TO ITS NAME

The AirPods Pro 2 are already one of my most-used Apple products. Whether I'm running in the city, hiking in the middle of nowhere, working from a café, or just commuting, the earbuds keep me entertained by minimizing external noise and delivering spatial audio tracks. Despite that, Apple could enhance them further by addressing the imperfections above.

The AirPods Pro 3 need to catch up with the times and bring smarter features, AI-powered and otherwise. With competing brands also offering multiple colorways, a new finish would make the AirPods more enticing to a certain category of customers. That's not to mention the other quality-of-life tweaks that would only make using the product more seamless.

Ultimately, we should find out what's in store for us in just a few months. Check out our regularly updated new AirPods superguide (fave.co/4kfbThx) for the latest news and rumors. And take a look at our roundup of the "Best earbuds for iPhone" we have tested (fave.co/3Yg29L8). ■

Sorry, folks: The fancy Apple TV redesign is for new models only

You'll need a 2nd- or 3rd-gen Apple TV 4K to get the shiny Liquid Glass interface.

BY DAVID PRICE

Amid all the other announcements at Worldwide Developers Conference 2025 (fave.co/4k9Nn1j), tvOS 26 passed by with barely a ripple. Out of a total 92 minutes of keynote time, it was on screen for less than five (a big chunk of which was a trailer for upcoming TV+ shows and movies), and at the time of writing this, the software doesn't even have its own tab on Apple's OS preview page.

But this is often the way with major Apple events: There's so much to talk about that worthwhile launches get lost in the hubbub. And tvOS 26 does have some interesting upgrades. There are user

IMAGE: APPLE

profiles to choose from when you wake the Apple TV, automatic logins for third-party apps, permanent AirPlay speaker connections, new aerial screensavers, and the ability to use your iPhone as a microphone and input device in Apple Music's Sing karaoke mode.

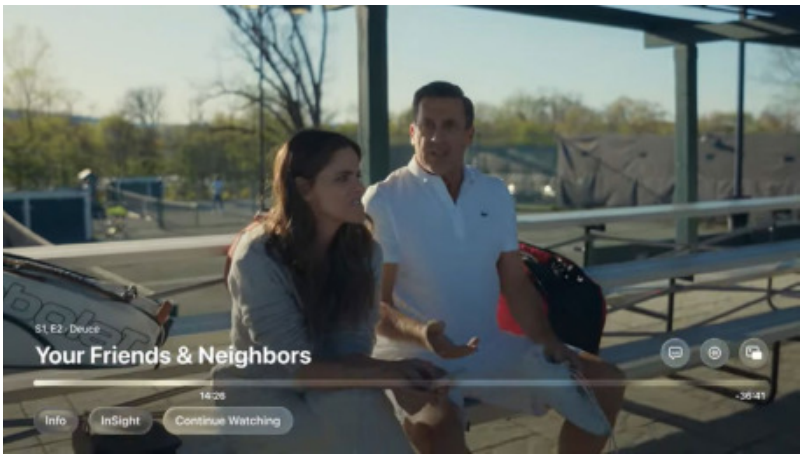
The biggest upgrade, however, is the Liquid Glass (fave.co/3TV56ih) visual redesign that's coming, in one form or another, to all of Apple's devices. The short way of describing this is to say that menus and buttons are transparent and shiny, with more interactive elements, but you really need to see it to grasp the impact this will have. It looks—in this reporter's opinion, at least—really nice.

(As a side note, it's worth pointing out that Liquid Glass does not look as starkly futuristic as iOS 7 did in 2012. Rather than designing for the future, Apple appears to have designed for the present, and while this is pleasant for now, it's debatable how well this will age.)

tvOS 26 can run on a decent range of Apple TVs: MacRumors reports (fave.co/3TjUqcY) that the developer beta, impressively, is compatible with all HD or 4K Apple TVs, going back to the model released in 2015. But the bad news is that the 2015 HD Apple TV, and the 1st-gen 4K model that came after it in 2017, don't get the full range of tvOS 26 features and upgrades.

Most importantly, as Apple confirms in a footnote of its tvOS 26 press release (fave.co/44G1neF), Liquid Glass is only available on the 2nd-gen Apple TV 4K from 2021 and the 3rd-gen 4K from 2022.

Oh, and the feature that lets you use your iPhone as a Sing input device only works on the 3rd-gen 4K model. And you need an iPhone 11 or later (or one that can run iOS 26), for that matter. ■



The biggest upgrade is the Liquid Glass visual redesign.

Apple's CarPlay Ultra has already hit a roadblock

Report claims that several major car companies have already backed out from supporting the in-car system.

BY MICHAEL SIMON

Apple's next-gen CarPlay—now named CarPlay Ultra—has had a bumpy start (fave.co/45PFESF). After its preview at Worldwide Developers Conference 2022 and name change earlier this year, the first vehicles are only just rolling off the lot, and now a new report claims several carmakers are taking their dashboard tech in a different direction.

According to the Financial Times (fave.co/40tkRRk), several auto groups that had initially indicated support, including Mercedes-Benz, Audi, Volvo, Polestar, and Renault, have declined to bring the in-car system to their fleet. Of note, all of those cars support Apple's current CarPlay system, which is limited to navigation screens.

IMAGE: APPLE

CarPlay Ultra is due to roll out later this year.

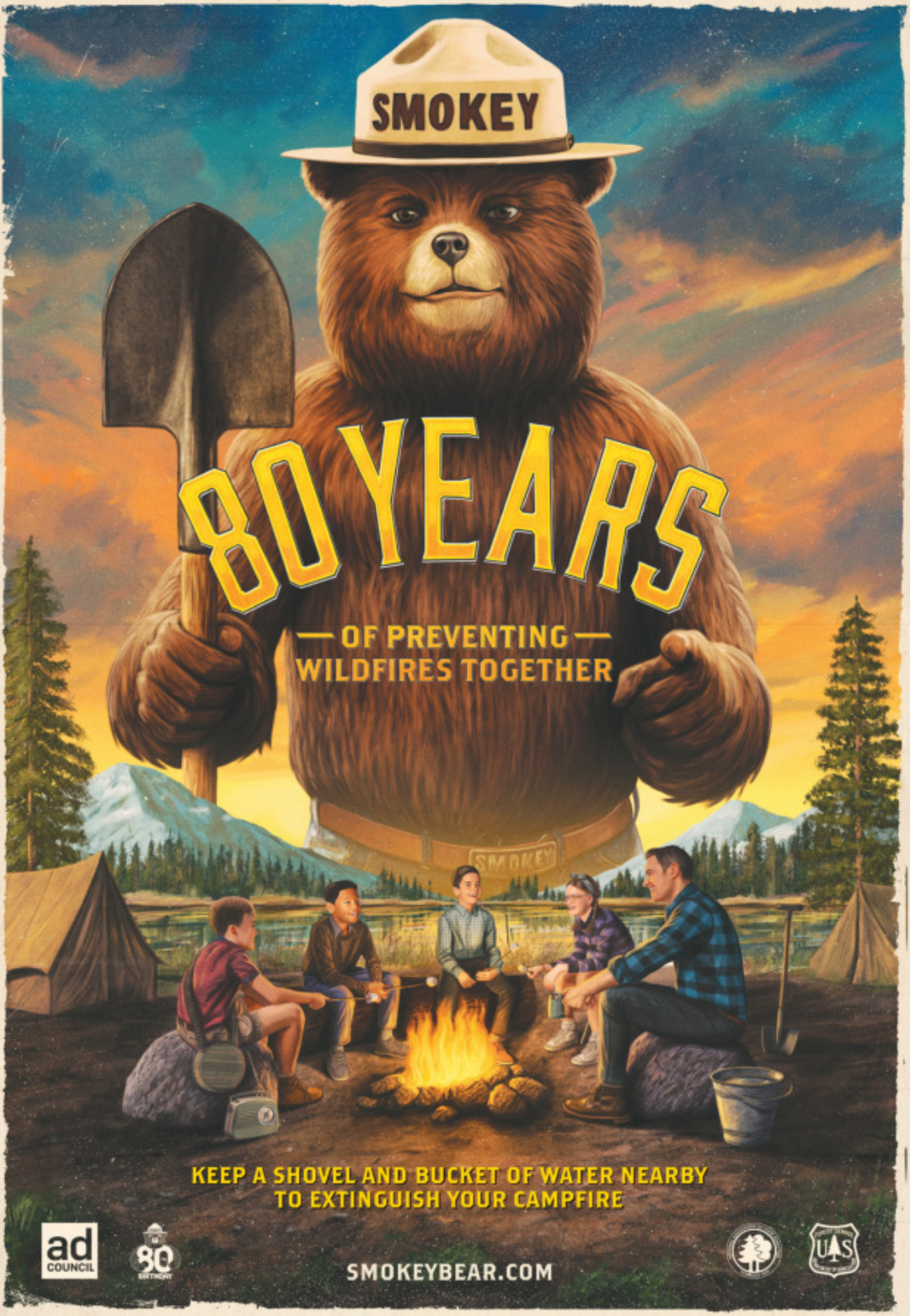
Apple calls CarPlay Ultra "the ultimate in-car experience," and boasts about its deep integration with all of the driver's screens, including "real-time content and gauges in the instrument cluster." Unlike CarPlay, each CarPlay Ultra integration is uniquely tailored to the carmaker's preferences and offers a fully customizable experience. It still requires the driver to have an iPhone and is an option built on top of the carmaker's stock system.

However, the Financial Times reports that some carmakers are wary about Apple's in-car takeover and have balked at the concept. One executive at Renault reportedly told Apple: "Don't try to invade our own systems."

Aston Martin is the first carmaker to support the system in new cars rolling out in 2025 and will bring the system to existing models as well. Apple has also announced that Hyundai, Kia, and Genesis will also bring CarPlay Ultra to their vehicles.

Back in 2023, General Motors announced (fave.co/4nkfzBs) that it would be ending support for CarPlay in favor of its own infotainment system, and Tesla and Rivian have never offered it in their cars. With screens commanding drivers' attention full-time, some carmakers want to make sure people know they are driving a Cadillac or Benz rather than an Apple Car. ■

Aston Martin is the first carmaker to support CarPlay Ultra in new cars.


SMOKEY
80 YEARS
— OF PREVENTING —
WILDFIRES TOGETHER
SMOKEY
KEEP A SHOVEL AND BUCKET OF WATER NEARBY
TO EXTINGUISH YOUR CAMPFIRE
ad COUNCIL
80 BIRTHDAY
SMOKEYBEAR.COM

WWF
love it or lose it
Time is running out to protect vulnerable wildlife.
Act now. wwf.org
wwf.org

Has your Apple Account been hacked? Here's how to know—and how to fix it

Here's what you can do if you think your Apple Account has been compromised.

BY ROMAN LOYOLA

Your Apple Account (previously known as your Apple ID) is a vital part of the Apple ecosystem. It does so many things, but because you have to log into it on so many devices, there's always a risk of your account being compromised, even if you are careful. How can you tell if your Apple Account has been hacked? And if so, what can you do to get back control? Here are a few things you should know if your Apple Account has been compromised.

WARNINGS THAT YOUR APPLE ACCOUNT HAS BEEN COMPROMISED

Apple may alert you to any suspicious activity on your Apple Account, but

IMAGE: SHUTTER Z/SHUTTERSTOCK

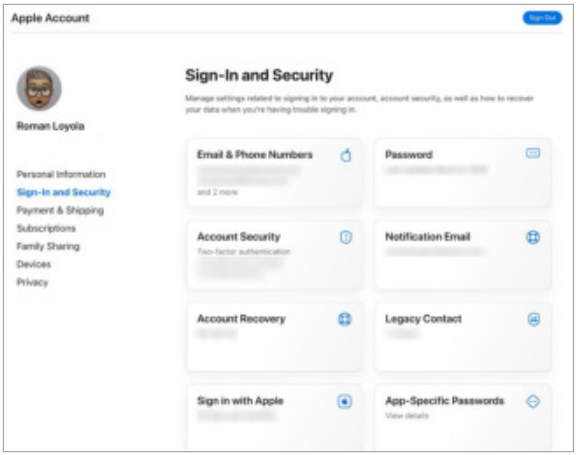
depending on how it has been compromised, here are some warning signs that someone is making an unauthorized attempt to access your Apple Account:

Notifications. Apple sends a notification or an email when it sees an attempt to log on from an unrecognized device, or when an attempt to change your password is made.

Unsolicited two-factor authentication code. You get a code that you did not request, or you did not perform an action that triggers a code.

Password failure. Your password stops working, and messages appear that you need to input your password.

Unusual activity. You notice things are happening that you didn't do, such as deleted files or sent emails or texts, or you may see an unfamiliar device in the Devices section of your Apple Account in Settings.



You can view your Apple Account information on the web at fave.co/3Y4PVWH.

HOW TO CHECK IF SOMEONE IS USING YOUR APPLE ACCOUNT

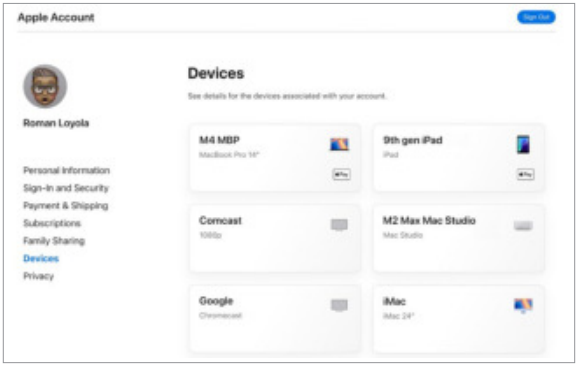
Aside from the above warnings, one surefire way to see if someone has accessed your Apple Account is to **check the devices associated with your account**. When signing into your Apple Account on the web (fave.co/3Y4PVWH), you'll see a Devices tab in the left column. Check it and you'll see all devices that are connected to your Apple ID, so you can check it for any unrecognizable ones. If you see any, you can click a device and click the "Remove from account button" to delete it. It's a good practice to remove older devices as well in case you want to sell them or give them to a friend.

HOW TO REGAIN CONTROL OF YOUR APPLE ACCOUNT

If you can't log into your Apple Account and you think someone else has control of it, here is what you can do to take back the keys.

Reset your Apple Account password. If someone else is

trying to access your account, you'll want to immediately change your password. You can do that on your device in Settings (fave.co/3I8O0ej) or by visiting fave.co/3I9Clqf. If you suspect a hacker has already changed your password and you can't change it back, you can take steps to recover your account at the same address.



You can check the devices associated with your account on the iCloud website.

Check your Apple Account information. On the web, go to fave.co/3Y4PVWH, log in, and examine the information. Change anything that may have been altered.

Check your Mail and Messages apps. Make sure you still have control of the services that are associated with your Apple Account.

HOW TO SECURE YOUR APPLE ACCOUNT

If you suspect any suspicious activity, you can take a few steps to make sure you are back in control of your Apple Account. These are good to implement even if your account hasn't been compromised.

Check your user info. In Settings, your Apple Account info is at the very top. It should display your name, and when you tap it, you should see your name and the email address associated with the account. In your Apple Account settings, check the Sign-In & Security info and make sure the email and phone numbers match your info.

Set up two-factor authentication. In Apple Account Settings ➔ Sign-in & Security, you can activate two-factor authentication. When you log into your account, a notification on your trusted devices appears to alert you of the login. You'll need to enter a six-digit code to authorize the action.

Use a security key. For extra protection, you can use a security key (fave.co/4IgKe1m) that either plugs into the USB-C port on your iPhone or Mac or connects wirelessly via NFC. A security key is a keychain-size hardware device that stores the credentials of your online accounts and connects to your device when you need to log into your Apple Account or other online account. ■

How Apple Intelligence can turn anyone into a star student (without cheating)

Apple's AI can't do it all for you, but it can boost your productivity and improve your projects.

BY MAHMOUD ITANI

Apple Intelligence (fave.co/4d8uxoF) is generally perceived as a mundane AI suite, especially when compared to the likes of Google's Gemini—which lets its users reimagine their photos and perform other advanced tasks. Nevertheless, the iPhone maker has managed to build solid tools that often come in handy for getting productive tasks done. While I don't necessarily find them exciting, they complement my everyday workflows.

IMAGE: APPLE

Here are some of the ways Apple Intelligence can be useful and can increase your productivity in iOS and iPadOS 18.1 (fave.co/3Bk1PTU) and coming soon in iOS and iPadOS 18.2 (fave.co/4gJYj4E).

ARTICULATE LIKE A PRO

One thing I wish I'd had as a student majoring in English language and literature is the Writing Tools feature. Having written countless essays during my academic journey, I can't imagine how much simpler it would have been with access to Apple Intelligence. While I advise you not to rely on the feature to compose assignments from scratch, the proofreading perk spares you the need to scan through thousands of words at a time. It's essentially a free Grammarly clone that works offline, and I actively use it to uncover typos and errors in my articles.

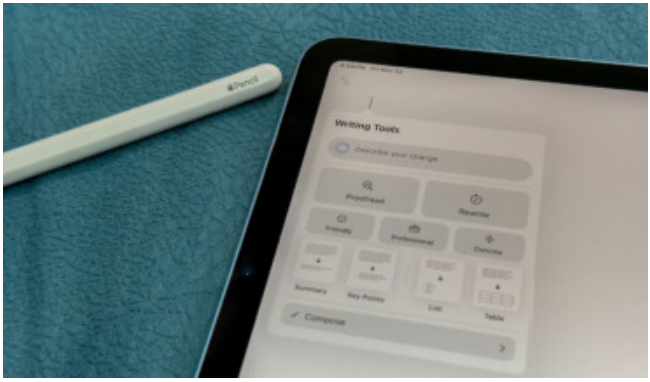
Beyond composing text and proofreading, Writing Tools can also change the tone of your existing text. So, for example, if you're emailing your professor or employer, it can ensure that your tone is professional. It similarly lets you make the text more concise, turn it into a list, make it friendlier, and more.

ALL YOU NEED TO ACHIEVE INBOX ZERO

Speaking of emails, the built-in Mail app has had a serious Apple Intelligence boost with iOS 18. While the application has long been criticized for being too plain, it's evolving into a solid client that handles my work and personal emails.

Perhaps my favorite feature in Apple Mail is the AI summaries. The app can now read my emails and generate a short paragraph encompassing their gist. It also splits my inbox into four sections—Primary, Transactions, Updates, and Promotions—filtering out the noise (coming in iOS 18.2). Unfortunately, though, categorization in Mail is currently exclusive to the iPhone, which makes it useless when working on macOS.

Also, the Mail app can now compose smart replies based on the initial message.



Beyond composing text and proofreading, Writing Tools can also change the tone of your existing text.

Image Wand can scan a basic doodle and, with the help of your keywords, generate a decent version of it.

This makes it easier for those with cluttered inboxes to quickly respond and get emails out of the way.

BRING OUT THE MAGIC IN YOUR ART

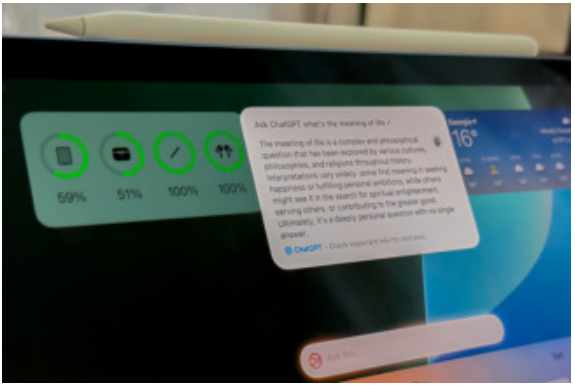
As a terrible illustrator, Image Wand is yet another iOS 18.2 Apple Intelligence perk I wish I'd had as a student. Back then, coming up with half-decent drawings for science class was a nightmare.

The tool can scan a basic doodle and, with the help of your keywords, generate a decent version of it. So, for example, it could transform a rough sketch of a house I created in under 10 seconds into a vibrant masterpiece that would take me days to replicate manually. It's excellent for visualizing your thoughts when taking notes or presenting an idea to someone.

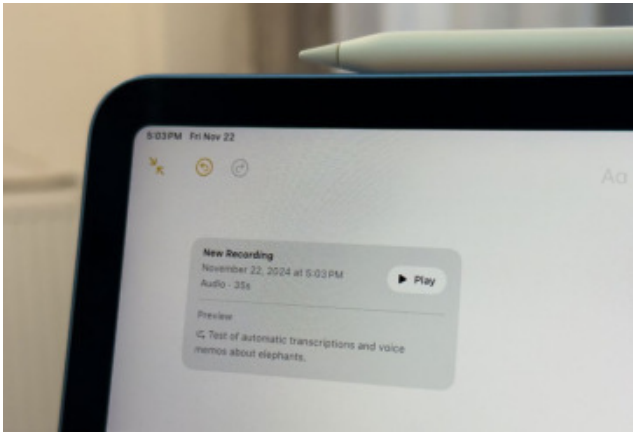
OPENAI HAS ENTERED THE CHAT

While Apple Intelligence primarily relies on first-party models, the company has also integrated OpenAI's ChatGPT into Siri and Visual Intelligence in iOS 18.2. This lets me swiftly get proper answers to everyday questions or inquire about objects in front of me.

Coming from an era when school research was conducted by reading



Apple has integrated OpenAI's ChatGPT into Siri and Visual Intelligence in iOS 18.2.



When you're recording audio using Apple Notes or Voice Memos, Apple Intelligence shows the transcript in real time.

physical books and resources, I especially appreciate how accessible knowledge has become. Sure, Google Search has been around for a while, but requesting information from ChatGPT using Siri is infinitely faster and more intuitive.

EFFORTLESSLY SUMMARIZED LECTURES

Other Apple Intelligence features that could assist students during lectures are automatic audio transcriptions and summaries. When recording audio using Apple Notes or Voice Memos, the app shows the transcript in real time. Once the recording session concludes, you can view a summary of the transcript. These perks simplify skimming through long lectures, as one can immediately spot the keywords they're interested in or get an idea of what a class is all about.

IT'S AN ACCESSIBLE, INVALUABLE ASSET

Third-party companies have long offered software with capabilities similar to these. What's so special about Apple Intelligence is how well it is integrated into the firm's operating systems. Those with eligible devices can rely on these perks without paying for multiple subscription services or installing a ton of apps. Apple Intelligence is natively woven into these platforms, so it's frictionless and hassle-free.

The Writing Tools menu, for example, pops up automatically when you're selecting text. Similarly, the Image Wand works in multiple apps and appears where users expect it to be, and ChatGPT can analyze your text or voice queries and onscreen content anywhere across the OS. It all operates on a system level.

Convenience plays a key role when it comes to user adoption of a new feature. Apple Intelligence may not be as thrilling as its rivals, but its front-and-center position will push many users to rely on its smarts when they're executing everyday productivity tasks. ■

How to record and transcribe voice calls on your iPhone

Starting in iOS 18.1, with supported models and languages, you can record only or record and transcribe voice calls.

BY GLENN FLEISHMAN

FaceTime, Skype, Zoom, and other apps offer live captions for calls and videoconferences. You can record calls in FaceTime. Several services and some apps transcribe audio to text using machine learning. Why not combine all these into a single service? Apple did with the Phone app and FaceTime in iOS 18.1.

Starting with that release, you can opt to record calls if you meet Apple's broad requirements. The integration into the

IMAGE: FIZKESSHUTTERSTOCK

operating system is still a little wonky: Apple has the Phone or FaceTime app record into a Notes item, which is also where you find a transcript in a special format embedded in the note.

For transcription, you need at least an iPhone 12 model. Presumably for reasons of software development, call recording and transcription are limited to many of the most-spoken languages. See the bottom of this article for more details.

If you have iOS 18.1 installed and you see the recording icon described and shown below, you have the right intersection of language, country, and hardware to record.

RECORD A CALL

Here's how to record a call:

1. In the FaceTime or Phone app, look for the new Recording icon that appears overlaid in the app. Tap it. (If you don't see it, read the requirements at the end of the article.)

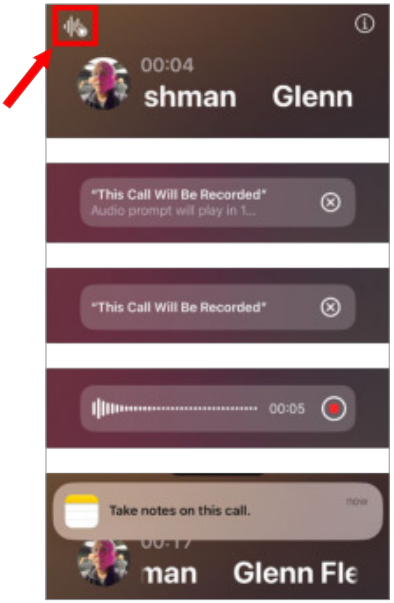
2. A countdown begins with an automated message that speaks the phrase, "This Call Will Be Recorded." There's an X icon you can tap to prevent that message and back out of recording before it starts.

3. The recording starts. You can tap the stop button to end the recording; when you end the call, the recording stops automatically.

When the recording starts in a language supported by transcription, you'll see a notification that says, "Take notes on this call." Tap it, and you're taken to the note that is capturing the active call's audio and will later have a post-call transcription.

PLAYING AUDIO

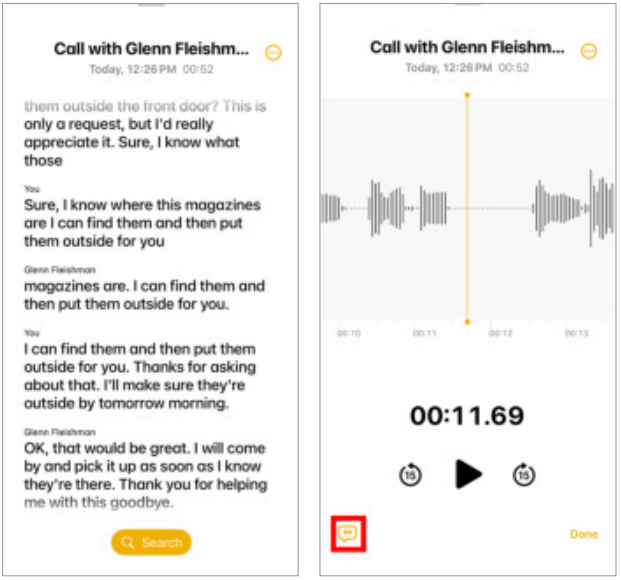
Visit the note, which is nested in a Call Recordings folder, to play back audio. If you're using a language that supports transcription, the text of the conversation follows audio playback. If not, or if you tap the Transcription icon in the lower-left corner (to deselect it), you will see an audio waveform.



The transition from an active call to active recording starts by tapping the Record icon (in red square with an arrow pointing at it) through alerts and notifications.

WORKING WITH THE TRANSCRIPT

In languages that support transcription, opening the note reveals the conversation as text and audio control tools at the bottom. You can drag to scroll through the transcript. Speakers are identified based on Caller ID or contact information. You're listed as "You." Tap on any point in the transcript and the audio playback jumps to that position and starts to play. You can use the Transcription icon to switch between the audio waveform and the transcript to move the audio to the point you want to read in the transcript, and then tap the icon again.


Call with Glenn Fleishm...
Today, 12:26 PM 00:52
them outside the front door? This is only a request, but I'd really appreciate it. Sure, I know what those
You
Sure, I know where this magazines are I can find them and then put them outside for you
Glenn Fleishman
magazines are. I can find them and then put them outside for you.
You
I can find them and then put them outside for you. Thanks for asking about that. I'll make sure they're outside by tomorrow morning.
Glenn Fleishman
OK, that would be great. I will come by and pick it up as soon as I know they're there. Thank you for helping me with this goodbye.
Search
Call with Glenn Fleishm...
Today, 12:26 PM 00:52
00:11.69
Done

The transcript in Notes can be dragged through to find audio. Or by tapping the Transcription icon (the red square at right bottom), you can scrub through audio instead.

If you want to extract the transcript as plain text you can work with, tap the "More" or ellipsis (...) icon and choose Add Transcript to Note. From the menu, you can also copy the transcript to use in another app (or paste on another device via Universal Clipboard), or save or share the audio.

You can search within the transcript with Find in Transcript or by tapping Search at the bottom of the view. With Apple Intelligence available and enabled, you can tap Summary to get a short description of the conversation.

ADDITIONAL REQUIREMENTS

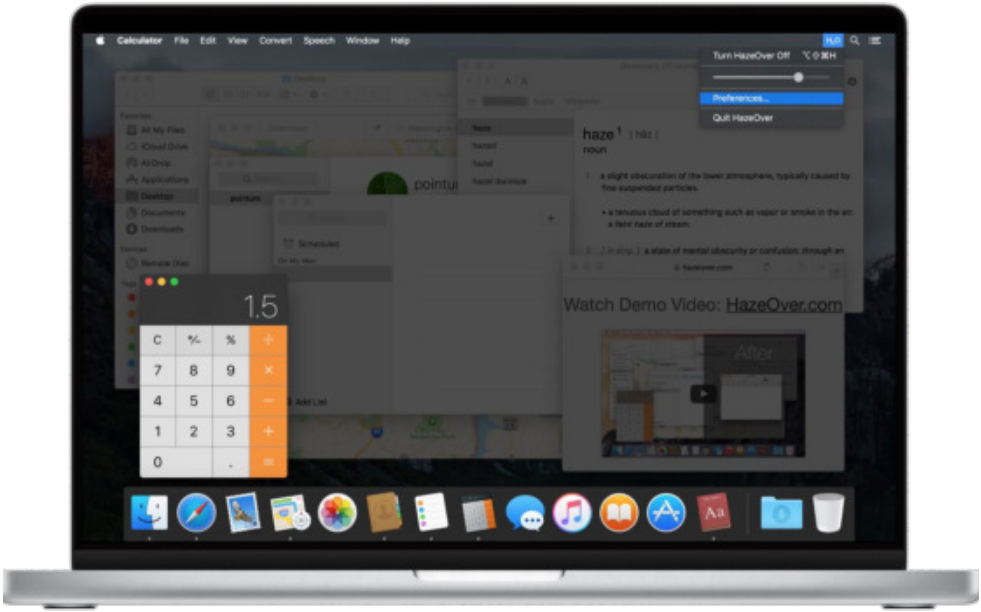
Apple currently supports only a few languages for call transcription, which it lists in this way (fave.co/3I9F7RD): Cantonese (Hong Kong), English (Australia), English (United States), Korean (South Korea), Mandarin Chinese (China mainland), and Spanish (United States).

Call recording has broader support, but Apple also lists availability by language rather than country. There are 31 supported languages, which include Chinese in both Cantonese and Mandarin forms. ■

Do you always lose your active window on macOS? This app can help find it

HazeOver adds a much-needed feature to the Mac.

BY GLENN FLEISHMAN



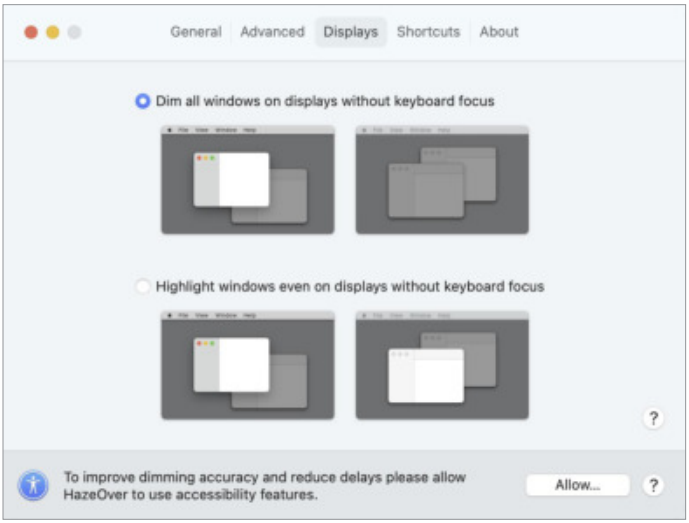
Apple provides one clue in macOS as to which of many windows you may see on screen is the current frontmost active one: the “traffic light” red, yellow, and green buttons for close, minimize, and resize are lit up in color. That’s it. You can use Mission Control (F3) to shrink all windows to fit across your displays, but it doesn’t provide clues about the active one.

The only solution is an inexpensive

IMAGE: MAXIM ANANOV

third-party app, HazeOver (fave.co/4lCnrNd), which is $5.99/£5.99 on the App Store (fave.co/3TPTlEr). It's a single-purpose app with many settings and keystrokes you can use to customize how it identifies active windows and for how long.

Set Highlight to a single window.


General
Advanced
Displays
Shortcuts
About
Dim all windows on displays without keyboard focus
Highlight windows even on displays without keyboard focus
To improve dimming accuracy and reduce delays please allow HazeOver to use accessibility features.
Allow...

Opt to dim all but one window on a single display.

In HazeOver's most basic configuration, here's what you do to highlight the active window and dim all the rest:

1. Choose the Settings menu item from the HazeOver system menu.

2. In Advanced, select "One window only" next to Highlight.

3. In Displays, choose "Dim all windows on displays without keyboard focus."

4. Close Settings.

To toggle the focus state, you can use the default keystroke Command-Control-Option-H. This can be customized in HazeOver ➜ Settings ➜ Shortcuts. ■